

# AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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## AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JULY 27, 1833.

It may not be uninteresting to those of our friends who were so obliging as to furnish us with reports and other documents relative to the numerous railroads now in use, or in a course of construction, as well as those in contemplation, to learn that they have been received by the eminent gentleman in whose behalf we applied for them; nor will they be less gratified to know that we shall soon have the pleasure of laying before them the article on *Roads and Railroads*, prepared for the "Encyclopædia Metropolitana," by one of the most distinguished engineers of Europe, as they will learn by the following letter recently received from Liverpool.

LIVERPOOL, June 7, 1833.

To the Editor of the Am. Railroad Journal:

DEAR SIR,—I have to acknowledge the receipt of two copies of the first volume of your valuable and interesting publication; and one copy of the first nineteen numbers of the second volume, and shall expect in due course the duplicate numbers, and the others in progress of publication.

I am much gratified by your compliance with my request, and will in return furnish you with proofs of the article, *Road and Railroad*, when put in type, which will now be in the course of a few weeks, though I shall delay the printing as long as possible, that I may get the very latest information on the subject of the American Railways, &c.

I have also received the Reports, &c. upon the several principal Railroads enclosed in your packet, and I will take the earliest opportunity of reciprocating your politeness by sending you

what I can on the subject of our public works in England.

Allow me to say, that any friend of yours coming to England with letters from you to me, shall meet every attention. I am engaged on most of the principal Railroads of this country and Ireland, and will be glad to afford any American engineer the information he may require.

I have the honor to be, dear sir, yours, with much esteem,  
CHARLES VIGNOLES,  
Civil Engineer.

There are still several Railroads, relative to which we have received no account. We should be greatly obliged by such information from the engineers, or other officers of the companies, as will enable us to furnish Mr. Vignoles in time for his forthcoming publication. He desires, also, where it is convenient, a transverse and longitudinal section of the road.

We shall forward by the packet of the 1st of August such Reports, &c. as may have come to hand since the others were sent.

Our desire to obtain further information relative to the various roads from which we have not heard, will be, we trust, sufficient apology for publishing the above letter.

NEW-YORK AND ERIE RAILROAD.—The books for subscription to the stock of the New-York and Erie Railroad were opened in New-York week before last, and the requisite quantity of stock to commence the work was taken up. This road is to extend from the Jersey shore near New-York, touch a section of Pennsylvania, and run through the southern tier of counties of this State to Lake Erie. It will be a great thoroughfare for the transportation of produce, &c. from the west to New-York. It would seem like a Herculean undertaking to construct it, but the stock being taken, it will doubtless soon be commenced, and completed at no very distant day.

The above extract is from the Poughkeepsie Telegraph. The editor is, however, mistaken in saying that the New-York and Erie Railroad is to extend from the "Jersey shore near New-York, touch a section of Pennsylvania," &c. as the charter for this road expressly requires that it shall pass the entire distance in the State of New-York, as will be seen by the following extract from the charter:

Sec. 12. The said corporation shall not, at any point, connect the said single, double, or treble Railroad or ways, with any Railroad,

either of the State of Pennsylvania or New-Jersey, or leading into either of the said States, without the consent of the Legislature of this State, on pain of forfeiting the powers and privileges conferred by this act.

NEW-YORK AND ALBANY RAILROAD.—By an advertisement in our paper for four weeks previous to the 17th instant, notice was given that books for subscription to the stock of the New-York and Albany Railroad Company would be opened in the cities of New-York, Albany, and Troy, for three days, ending on the 17th, and also at Payn's tavern, in the town of Amenia, in this county. Since the 17th we have inquired of several persons from the country whether any subscriptions have been made at Amenia, without receiving any definite information. Neither the New-York, Albany, or Troy papers have stated the amount subscribed in those cities. We, therefore, conclude that the books were opened without success, or if any subscriptions were made, the amount was so small that the city papers have not deemed it worth while to mention it.—[Poughkeepsie Telegraph.]

We learn, upon inquiry, that the stock for the road above referred to was not taken at the late opening of the books: it is believed, however, that it will be taken without much delay.

CUVIER.—It has been justly deemed one of the greatest advances in science, that the naturalist can now, on the discovery of a fossil tooth, merely by the examination of that seemingly unimportant relic, pronounce with certainty on the nature of the animal to which it belonged, the distinguishing features of its structure, and even the prominent characteristics of its nature and habits. That this has been done, and that too with animals which, like the mammoth and the mastodon, have long disappeared from the face of the earth—that we have been enabled to form in part a natural history of the world before the creation of man—we owe chiefly to Cuvier. The discovery of a few bones, which to our ancestors would merely have seemed testimonies of the reality of the existence of giants in the "good old days of Palmerin of England," and "Amadis of Gaul," has led in our times to an extension of the authentic history of nature, which we could hardly blame those who lived fifty or sixty years ago for regarding as wholly impossible.—[From an excellent Memoir of Cuvier in the Literary Guardian.]



**NORTH CAROLINA.**—The following, from the Raleigh (N. C.) Register, is indeed reviving. It shows that, notwithstanding the recent failure of the *Central Railroad* enterprise, North Carolina does not mean to let the subject rest. There will be found in the following list the names of some of North Carolina's most eminent sons, and it is much to be desired that the present effort may be crowned with better success than those which have preceded it.

**Internal Improvement Convention.**—In conformity to the invitation previously given through the public papers, a large number of Delegates from various parts of the State, assembled in Convention, in this city, on the recent Anniversary of American Independence, to take into consideration the subject of Internal Improvement, and to adopt such measures as might best promote its success. It may not, perhaps, be going too far, to say, that it was the most talented, respectable, and dignified body ever convened in North Carolina, for any purpose. Ample confirmation of the correctness of this assertion may be found in the list of the Delegates which we subjoin. It is, indeed, a truly gratifying and animating circumstance, to find that there is still so much of the spirit of State pride and patriotism among us, as to bring together, on such an occasion, and at so short a notice, so large a number of gentlemen, of different political views, to consult and co-operate for the public good. This fact alone proves conclusively that nothing is wanting to give an impetus to the cause of Internal Improvement in the State, but the general prevalence of a spirit of free inquiry into our resources and relative situation. To excite such a spirit was the great end and aim of the Convention, and no one who witnessed the zeal, nay, the enthusiasm which pervaded that body, can doubt that the design will be accomplished.

Having had the honor, however, to serve in the Convention, and desirous to create abroad no false impressions as to its character or deliberations, we prefer that the record of the proceedings should speak for itself. The Journal of the Convention, therefore, shall be given in detail to the public, in our next; but in the mean time, we think it our duty to subjoin a very brief account of the most prominent circumstances connected with it.

The Convention was organized at the Government House, on the afternoon of the 4th, by the appointment of his Excellency, DAVID L. SWAIN, as President, and of Gen. S. F. PATTERSON, of Wilkes, and CHARLES MANLY, Esq. of this city, as Secretaries. On taking the chair, the president made an appropriate address. The Counties having been called over alphabetically, the following Delegates, 118 in number, appeared and took their seats, viz.:

**From Beaufort County**—Z. W. Barrow.

**Brunswick**—F. J. Hill, Francis N. Waddell, J. Waddell, H. Y. Waddell.

**Bladen**—John Owen.

**Craven**—William Gaston, John H. Bryan, John F. Burgwin, Wright C. Stanly.

**Chatham**—Jona. Haralson, Abraham G. Kean, C. J. Williams, William H. Harden, P. Le Messurier, Charles Lutterloh, H. S. Clark, Thomas Prince.

**Cumberland**—Robert Strange, John Huske, L. D. Henry, John H. Hall, E. J. Hale, E. Arnold, E. W. Wilkings, James Seawell, W. Waddell, Jun., Thomas L. Hybart.

**Duplin**—William Wright.

**Franklin**—James Farrier, Wood T. Johnson, Nathaniel R. Tunstall.

**Granville**—William M. Sneed, Spencer O'Brien, Thomas W. Norman, Thomas B. Littlejohn, Memuciah Hunt.

**Halifax**—Jos. J. Daniel, Edm. B. Freeman.

**Johnston**—J. H. Smith, Bythan Bryon, Josiah O. Watson, Daniel Boon, Christopher Christophers, Reuben T. Sanders, John C. Smith, James T. Leach, James Frilick.

**Lenoir**—Isaac Croom, Hardy B. Croom, Nathan B. Whitfield, and George Whitfield.

**New-Hanover**—William B. Meares, John D. Jones, Joseph A. Hill, Alexander MacRae, William J. Love, Thomas Hill, Patrick Usher, George H. McMillan.

**Nash**—Henry Blount, Stephen S. Sorsby, George Boddie, Jun.

**Orange**—Hugh Waddell, William J. Bingham, Professor Philips, Walter A. Norwood, Alexander Henderson, James H. Norwood, Frederick Nash, William A. Graham, John Scott, Samuel Childs, Cadwallader Jones, William F. Strudwick, James Mebane.

**Sampson**—Thomas J. Faison, H. C. Holmes, William Kirby, Ollen Mobley, Wm. Faison.

**Wilkes**—Samuel F. Patterson.

**Wake**—David L. Swain, George E. Badger, James Iredell, William McPheeters, William H. Haywood, Jun., William Boylan, Henry Seawell, George W. Haywood, Charles Manly, A. J. Lawrence, J. C. Stedman, Thomas Cobbs, Weston R. Gales, James Grant, Cyrus Whitaker, Johnston Busbee, Alfred Jones, Henry A. Donaldson, Henry Warren, Turner Pullen, John Y. Young.

**Warren**—John C. Green, Thomas Bragg, George Little, Joseph S. Jones, George M. Allen, Simmons Southerland, James Somerville.

**Wayne**—Arnold Borden, James B. Whitfield, John W. Sasser, H. M. Jeter, John Wright.

A Committee, composed of one member from each Delegation, was appointed, to whom were referred all matters of inquiry, with instructions to make a general report. This Committee made a detailed report on Friday afternoon, which elicited a most able, animated, and protracted discussion. After being modified in several particulars, it was adopted by a vote of 55 to 37, on Saturday afternoon about 4 o'clock. Nearly the whole of the debate which occurred in the Convention took place on a resolution reported by the Committee, which affirms that the true policy of the State requires that its funds should, in the first instance, be exclusively applied to providing the means of internal transportation, and in creating and improving markets, within her own limits. This resolution was opposed by Messrs. Iredell, Badger, Sneed, O'Brien, Graham, and Nash; and advocated by Messrs. J. A. Hill, Strange, Gaston, J. H. Bryan, Haywood, Henry, and Patterson.

The Report, as adopted, embraces substantially the following Resolutions:

1. That the condition of the State requires that a liberal system of Internal Improvement should be immediately organized and vigorously prosecuted.

2. That the Legislature ought to provide a fund, by loan, or otherwise, to enable the State to contribute substantial assistance in the prosecution of works of Internal Improvement.

3. That true policy requires that said fund should be appropriated, in the first instance, to build up markets in our own State.

4. That it be recommended to the Legislature to provide, by law, that the State shall subscribe for two-fifths of the Stock in any Company hereafter incorporated for the purposes of Internal Improvement, whenever the other three-fifths shall be paid, or secured to be paid, by individuals.

5. That the President shall appoint a Committee to prepare an Address to the people of the State, on the subject of Internal Improvement.

6. That the Proceedings of the Convention be laid before the Legislature at its next session.

7. That Committees of Correspondence be appointed in the several counties.

8. That it be earnestly recommended to the citizens of the several counties in this State to elect three Delegates from each county, to hold a Convention in the city of Raleigh, on the 4th Monday of November next, to deliberate further upon the subject of Internal Improvements.

To the passage of the third resolution, Mr. O'Brien, of Granville, entered a protest, which, agreeably to his request, shall appear in our next, when we publish the proceedings.

The Convention having got through with the

business before it, and a resolution of thanks having been voted to the President for his impartial discharge of the duties of the Chair, that gentleman rose and delivered one of the most interesting and pertinent addresses which it has ever been our good fortune to hear. We shall not attempt a description of the vigorous arguments, the warm eloquence, or glowing imagery of the speaker. His mind seemed to pervade the assembly, and to control their feelings. It was our State—our whole State—and nothing but our State—her pride, her glory, her hopes and fears—that was the life and soul, and pervading spirit of his eloquence.

#### TUSCUMBIA, COURTLAND, AND DECATUR RAILROAD.

ENGINEER'S OFFICE,  
Tuscumbia, March 4, 1833.

To the President and Directors of the Tuscumbia, Courtland, and Decatur Railroad Company.

**GENTLEMEN,**—In pursuance of a resolution of your Board, passed the 12th February, I respectfully present my first annual report, detailing the operations in my department for the past year, under their proper heads, with such general observations, in view of the future, as seem to be of interest or importance to the Company.

**THE LOCATION OF THE ROUTE.**—Soon after my appointment as your principal Engineer, in March last, I proceeded to the definitive location of the First Division of the Railroad, extending from Main street in the town of Tuscumbia, to Town Creek, being a distance of 14 miles 62 chains and 75 links, or 14-784 miles.

Subsequently, in compliance with an order from your Board, the route was continued, and that part of the Second Division of the road, extending from the west bank of Town Creek, to the east bank of Big Nance, near the town of Courtland, was staked out, being a distance of 8 miles and 4 chains; making the whole distance from Main street in Tuscumbia, to the east bank of Big Nance, 22 miles 66 chains and 75 links, or 22-834 miles. The distance, in a straight line drawn from point to point, is 22 miles 25 chains and 29 links, or 22-316 miles. The distance of the route of the railroad exceeds the nearest distance between the points 41-46 chains, or 518-1000 of a mile, equal to 24 per cent. A table is annexed, marked A, exhibiting the length of straight line, the length of curved line, and the radius of curvature of the curves; from which it will be seen that the plan of the road consists of 27 straight lines, and 26 curves; that the total length of the former amounts to 19 miles 76 chains and 75 links, or 19-659 miles; and of the latter, to 2 miles and 70 chains, or 2-7-8 miles, and that the proportion of straight line to that of curved is as 7 to 1, nearly. Also, that the longest straight line is 2 miles and 22 chains in length, and that there is but one curve, on a less radius, than 1512 feet, which is on a radius of 1380 feet. This curve was laid off before the minimum of 1512 feet was adopted, and the difference being so inconsiderable, it was concluded not to change it.

A table is also annexed, marked B, exhibiting the rate of ascent or descent per mile, and the amount of ascent or descent, and length of each grade in feet; and the total ascent and descent; from which it will be seen, that the profile of the road consists of 116 plane surfaces, of which number 53 are horizontal; the remainder, namely 63, are more or less inclined to the horizon, ranging from 0 to 28 feet to the mile, which last has been observed as the maximum of inclination. From this table it will also be observed that the total rise of the ascending grades is 266-03-100 feet, and the fall of the descending 177-89-100. The difference is 88-14-100, being the amount in feet by which the point of present termination, on the east bank of Big Nance, is elevated above the grade of the road on Main street in Tuscumbia.

Maps and profiles of the route have been heretofore reported, and are now referred to.



**GRADUATION AND MASONRY.**—Under this head is embraced all the preparation of the ground which is necessary to the laying down of the railway. Your Board will remember that, in May last, the grading of that part of the First Division of the road extending from Tusculumbia to the county line, was let to contract, and in October the grading of the remainder of the First Division, and the whole of the Second Division, extending to the town of Courtland, was also let, to Messrs. Aldridges, Warren and Davis, to be accomplished by the last day of November, 1833. The bridges over Town Creek and Big Nance have also been let to Mr. D. S. Goodloe; the former at \$1930, and the latter at \$900, exclusive of the masonry for the abutments, which is to be paid for at the rate of \$4.25 per cubic yard. The work to be completed by the 1st of October next. The undertakers of the contract let in May are the following, viz.: Thos. Aldridge, jr. & Co. the whole of sections 1 and 2, and part of 3 and 4. Wm. Hudson, part of section 3. Messrs. Davis, Warren, and McMahon, part of sections 4, 5, and 6. Mr. John Gist, part of section 5.

The following table will show the quantity of work undertaken by each Contractor, the contract prices and amount:

Section.	First Division		Section.	Second Division	
	Part 1 & 2	Part 3 & 4		Part 1, 2, 3 & 4	Part 5, 6
Excavation.	26890	7763	Excavation.	22421	10417
Embankment.	9821	8261	Embankment.	10417	32838
Total.	36714	16024	Total.	32838	43655
Price.	11c.	11c.	Price.	10 82c.	10 82c.
Amount.	4038.54	1762.64	Amount.	3546.18	4712.36
Grubbing.			Grubbing.	169	472
Masonry.			Masonry.	153	261
Remarks.	Aldridge's Contractor.		Remarks.	County line.	
	Hudson			Town Creek.	
	Davis, Warren & Co.				
	Do. & Gist.				
	Davis, Warren & Co.				

From the above table the following results are deduced, viz.: That the quantity of excavation and embankment required to the county line is, 85,156 cubic yards, which at the contract prices amounts to \$9214 38, equal to an average of 10 82-100 cts per cubic yard. The grubbing and masonry is estimated to cost \$733, making the total expense of preparation for the reception of the rails \$9,947 38, or an average of \$962 96 per mile, and to complete the graduation of the road-bed, from Tusculumbia to the east bank of Big Nance, 180,708 cubic yards of excavation and embankment will be required, which will cost, at the contract prices, \$19,725 10, being an average of 10 1/10 cts. per cubic yard. Grubbing and masonry, as estimated, will cost \$2,063 50, which added to \$19,725 10 is equal to \$21,788 60, or an average of \$954

21 1/2 cts. per mile. The bridges over Town Creek and Big Nance—the first 429 feet and the last 115 1/2 feet in length between the abutments, are contracted to be built for \$2,830, exclusive of masonry—the masonry being estimated at \$425.

The following will show the total cost of graduation, bridging, and masonry, from Tusculumbia to the point last above mentioned, being a distance of 22-634 miles, viz.:	
180,708 cubic yards of excavation and embankment	\$19,725 10
Grubbing and masonry	2,063 50
Bridges over Town Creek and Big Nance	2,830 00
Masonry for abutments	425 00
	\$25,043 60

Average per mile, \$1,096 76 1/2.

According to the contracts let in May last, the graduation to the County line was to have been accomplished by the first day of November—but difficulties have arisen, which were beyond the control of the agents of the Company, or the power of the contractors to overcome. Immediately after the contracts were let, the principal contractors, T. Aldridge, jr. & Co. and Davis, Warren, and McMahon, commenced operations upon their respective sections, with that energy and promptness, which, under ordinary circumstances, cannot but succeed in the accomplishment of its ends. But the work had not progressed far, when the contractors began to be impeded by land proprietors, at different points along the line, and it became necessary for them to shift from place to place, in order to keep what force they happened to have on hand at work.

It is believed, that had the difficulties mentioned not occurred, the grading of the road from Tusculumbia to the county line would have been accomplished within the time promised in the contracts.

The following statement will show about the amount of labor that has been done between the town of Tusculumbia and the county line, and also what remains yet to be done, viz.:

Thos. Aldridge, jr. & Co. have completed in excavations and embankments, say	34,600 yds.
Davis, Warren & Co.	20,000 do.
Mr. Gist has completed his	4,025 do.
Mr. Hudson has done about	2,000 do.
	60,625 yds.

There remains to be done by T. Aldridge & Co.	18,000 yds.
Davis, Warren, & Co.	7,600 do.
William Hudson	1,000 do.
	26,600 yds.

The grubbing and chopping may be said to be almost entirely done. Of masonry there remains something more than a proportion to be done, taken with the excavation and embankment. The bridges in overcovering Dry Creek yet remain to be done. The distance taken up by the work that remains to be done amounts to about 3 1/2 miles.

Thus it appears that in point of distance, 6 1/2 miles is accomplished, while 3 1/2 miles is yet to be done, or about two-thirds of the space between Tusculumbia and the county line may be said to be graded; and in point of labor required, nearly three-fourths is done. Quite lately, as your Board are apprised, the obstacle heretofore interposed by Capt. Jones has been done away by the verdict of a jury—and the contractors have entered upon the work with a considerable force. Messrs. Aldridges, Davis, and Warren, have united their forces, and will finish the grading as they progress towards the county line, so that the construction of the railway can immediately follow. Mr. Hudson is actively engaged on his contract, and will finish, if the weather permit, in a very short time.

The following certificates upon the Treasurer of the Company have been granted on account of work done towards the graduation of the road, viz.:

To Thos. Aldridge, jr. & Co. on account of excavations and embankments, grubbing and masonry 13,233 69

To Davis, Warren & McMahon, on account ditto 1,900 00

To John Gist upon a final estimate 460 63

To Wm. Hudson upon his contract 50 00

\$5,653 32

**CONSTRUCTION OF THE RAILWAY.**—Under this head will be embraced the laying down of the sleepers, string pieces, and the iron rails, as also all the materials used in the construction of the railway.

Your Board will remember that in May last contracts were entered into at Courtland, for a sufficiency of sleepers and string pieces, to extend from Tusculumbia to the county line, a distance of 10 1-3 miles. These materials were stipulated to be delivered as follows: A quantity of sleepers, sufficient for one section of two miles, to be delivered by the 15th of August and a like quantity every 15 days thereafter till the contract should be supplied. Of string-pieces, a sufficiency for one section of two miles was to be delivered by the 1st day of September, and a like quantity in each two weeks thereafter, until the contract should be filled. But indications of a failure on the part of the contractors were observed before the time for compliance had arrived; and your Board being convinced of the fallacy of a reliance on those contracts, authorized a committee of three persons, (of whom your engineer was one,) to make other contracts to supply the whole, or any deficiency that might happen by reason of the non-compliance of the 1st contractors. The time being near at hand when the timbers were actually wanting, it was deemed advisable to engage as many persons in this business as could be induced to work at it. Accordingly a price was offered, viz.: 30 cents for cedar sleepers, 5 cents per foot for cedar string pieces, and four cents per foot for oak and poplar ditto, to be delivered upon the line, wherever directed. It was soon apparent that a sufficiency of sleepers would be obtained in pretty good time, but that the string-pieces did not come in so fast, owing, in a good measure, as is believed, to the difficulty of getting the proper quality of timber, and the extra skill required in preparing the same. There has been delivered upon the line, as appears from the Inspector's report, as follows viz.:

Cedar sleepers,	12,159
Mulberry,	233
	12,392 sleepers.

Cedar string-pieces,	17,356 feet
Oak,	25,644
Poplar,	3,860
Mixed parcels,	4,516

51,370 ft. strings.

There are about 10,000 feet of string timber, and about 1000 sleepers upon the line not yet inspected, which, when added, will make the quantity of 61,376 feet of strings, and 13,392 sleepers; which shows a deficiency at this time, between this and the county line, in strings, of 47,744 feet, and of sleepers, of 248. On account of this part of the work, certificates on the Treasurer to the amount of \$6,145 41 have been granted, viz.: on account of sleepers and string-pieces 5,645 41, and on account of laying down do. \$500.

About 5,000 bars of railroad iron have been received, which will be sufficient to lay the rails for about 6 1/2 miles, and a like quantity is daily expected, which will constitute a supply to reach some distance above the county line.

On the 16th day of July last, the following proposals were acceded to by our Board, for the construction of the Railroad from Tusculumbia to the county line, viz.: Thomas Aldridge, Jun. & Co. for the laying down the timbers, iron, &c. for the first section of two miles, at \$1 85 per rod run; section No. 2, at \$1 90, and section 3, at \$1 95, and for filling in the



earth between the string-pieces ready to receive the gravel for the horse-path, and for the covering the ends of the sleepers outside of the strings, at the rate of 20 cents per rod, making an average of \$2 10 per rod for the work stipulated to be done.

Messrs. Warren and Davis have undertaken the same description of work, upon sections 4, 5, and part of 6, at the rate of \$2 19 per rod. The following statement will show the cost of construction of this portion of the road, viz.:

The first three sections, say  
1920 rods, at - - - \$2 10=4032 00  
Sections 4, 5, and part of 6,  
say 1387 rods, at - - - \$2 19=3037 53

Total for 10 1.3 miles, \$7069 53  
7069 53 ÷ 3307 rods=\$2 13 average per rod.

These undertakings were stipulated to be done by the 1st day of January, 1833; but from several causes the work has been retarded. The following brief statement will show how much of the work has been accomplished, and how much remains now to be done.

The sleepers are laid for a distance of about 3½ miles, the string-pieces upon which are laid for a distance of 1 1.8 miles, and one half mile extending from Main street, in Tuscumbia, is laid with iron.

Thus it appears that upon about 6½ miles, nothing has been done towards the laying down of the superstructure of the road; that one half mile is finished; that upon 2 1.8 miles the sleeper and strings are laid; and that upon a little over two miles, the sleepers only are laid down. A specification is annexed, marked C, describing the mode of construction of the Railway in detail, in accordance with which the work now progressing is laid down. On the 9th day of October last the proposals of the Messrs. Aldridge, Warren & Davis, were accepted, and contracts entered into, for the construction of the remainder of the first division, and the whole of the second, extending from the county line, to the town of Courtland, at \$2 10 per rod run—all to be completed by the last day of November next. The distance from the county line, to the east bank of Big Nance, is 12½ miles, equal to 4000 rods, which, at \$2 10 per rod, will amount to \$8,400. Contracts have also been entered into, for a full supply of sleepers and string-pieces, to be all of cedar, for the portion of the road from the county line to Courtland, to be delivered upon the line by the 1st day of September next—the sleepers at 30 cents, and string-pieces at \$5 00 per hundred feet. These materials will cost, for 12½ miles, \$11,550. The following will show the cost of construction from Tuscumbia to the county line, and also from the last named point to station 321, on the east bank of Big Nance, including every thing, except the gravelling of the horse-path:

65½ tons iron rails, at \$51 per ton, \$8,470 00  
11,875 lbs. spikes and joint plates, at \$10½, - - - 1,246 87  
Ditching and turn-outs, - - - 723 00  
13,640 sleepers, at 30 cents, - - - 4,092 00  
109,120 feet cedar and oak strings, at an average of say 4½ cents, - - - 4,910 40  
Constructing of road, and filling horse-path of earth and covering ends of sleepers, at \$2 13½ cents per rod, - - - 7,069 53

\$26,511 80  
CONSTRUCTION FROM COUNTY LINE TO BIG NANCE.  
Sleepers and string-pieces for 12½ miles, as before stated, - - - \$11,550 00  
200 tons iron, at \$51, - - - 10,200 00  
17,100 lbs. spikes and joint plates, at 10½, - - - 1,795 50  
Ditches and turn-outs, - - - 875 00  
Construction of Railroad, &c. - - - 8,400 00

\$32,820 50  
26,511 80 divided by 10,334 miles=\$2,565 49½ average per mile, to the county line, and  
26,511 + 32,820 60 ÷ 22, 83 miles=\$2,598 42 average per mile to Courtland.

## SUMMARY.

The graduation, masonry, &c. from Tuscumbia to the county line, will cost - - - \$9,947 38  
The construction to the same point as above, - - - 26,511 80  
Add for contingencies 10 per cent. - - - 3,645 90

\$40,105 09

Average per mile, \$3,890 88.  
Graduation, bridging, masonry, &c. from Tuscumbia to the east bank of Big Nance, - - - \$25,043 60  
Construction to same point, - - - 59,332 30  
Contingencies 10 per cent. - - - 8,437 59

\$92,813 49

Average per mile, \$4,064 70.

Making the total cost of the Railroad to the county line, 10½ miles, \$40,105 09, including 10 per cent. for contingencies; and the aggregate expense to the east bank of Big Nance, will be \$92,813 49.

There has been paid to the contractors on account of the first portion, as follows, viz.:

On account of graduation, &c. - - - \$5,653 32  
On account of sleepers and string-pieces, &c. - - - 6,145 41

\$11,798 73

Which being deducted from \$40,105 09, leaves \$28,306 36 to be paid in part, during the progress of this portion of the work and the balance will be due when it is finished. The contracts from the county line to Courtland being made on time, the following will be about the periods at which the payments will become due, viz.: between this and the 1st of October next, on the following accounts, viz.:

On account of graduation and construction, - - - \$3,000 00  
For masonry of abutments to bridges, 425 00  
For iron, say - - - 6,000 00  
Sleepers and string-pieces, say - - - 2,000 00

Total to be paid by the 1st of Oct. \$11,425 00

The following between the 1st of October and the 1st of January, 1834:

On account of graduation, &c. - - - \$8,000 00  
" " iron, - - - 6,000 00  
" " sleepers and strings, - - - 2,000 00  
" " joint plates, - - - 1,800 00

\$17,800 00

The remaining balance of \$23,483 40 will be due and payable, the one half on the 1st July, 1834, the other half on the 1st of January, 1835. Thus it appears provision is to be made for the payment of - - - \$28,306 36

between this and 1st of June next.  
This amount by 1st October next, 11,425 00  
" " " January, 1834, 17,800 00  
" " " July, 1834, - 11,741 70  
" " " January, 1835, 11,741 70  
" having been paid, - - - 11,798 73

Total sum of estimates, - - - \$92,813 49

## RAILROAD DEPOT.

Early last spring a site was selected for a Depot, at the termination of the Railway, at the Tennessee river. Contracts were immediately entered into for the different parts of the work, and the building commenced with the view, if possible, to have it accomplished by the 1st day of December last. But from various causes the work did not progress with that celerity that had been expected, and finally the winter and bad weather set in, since when much could not be done. The brick work has been up some time, and the carpenters are now engaged in finishing their part of the work. The inclined plane being nearly finished, and the floors nearly laid down, it is hoped that the house will in a few days be of use to the company for their receiving and shipping business, which has thus far been attended with much extra labor and expense. In regard to the plan and location of the warehouse, it will probably suffice to say, that it is located upon an elevated point of land near the junction of Spring Creek

with the Tennessee river. The building is 75 feet, in a parallel direction with the river, extending back 60 feet, three stories high, the first of strong rubble masonry, the other two of brick work. The upper floor—being the one on a level with the Railroad—is elevated above high water mark 62.37 feet, and above the lowest water mark 85.75.

The front next the river is set back 105 feet, horizontal distance, from the edge of low water. An inclined plane is erected, passing from the edge of low water into the house, upon the second floor, and terminating upon the upper floor.

This inclined plane is designed to be worked by horse power, when proper gearing (the construction of which is in progress) shall have been erected back of the house for that purpose. For the present a wheel and axle will be used. A floating wharf will be constructed to accommodate itself to the inclined plane, at the different stages of the water in the river, along side of which boats will land and discharge their freight, to be elevated into the warehouse by means of the inclined plane. A memorandum, marked D, is annexed, containing some calculations and further explanations relative to the above.

The two lower stories of the house are expected to be used for the storage of cotton, which is received into the house by means of a chute, or schutes, and discharged again by another construction of the same kind, conducting the cotton to, and upon, the floating wharf above mentioned. The following certificates upon the Treasurer of the Company have been granted on account of the above described work, viz.:

To Manly H. Davis, for the stone work, - - - \$1,397 56  
" David S. Goodloe, for do. - - - 194 75  
" C. C. Carlton, for do. - - - 42 31  
" S. J. & G. O. Ragland, for brick work, - - - 500 00

\$2,134 62  
The final estimates not having been made, it cannot be accurately ascertained what the whole cost of the work will amount to; but we shall be pretty near the truth in estimating it at \$7,000.

(To be continued.)

Locomotive Steam Engine. By J. B. JERVIS.  
To the Editor of the American Railroad Journal.

DEAR SIR,—The Locomotive Steam Engine for the Saratoga and Schenectady Railroad, of which I promised to give you some account, was put on the road the 2d inst. and has been in regular operation since, making usually two trips (equal 84 miles) per day, and carrying daily over the road about 300 passengers.

The Engine was made by George Stephenson & Co., at Newcastle, England. The boiler has tubular flues, on the same plan as all of recent construction at that establishment. The leading objects I had in view in the general arrangement of the plan of the engine, did not contemplate any improvement in the power over those heretofore constructed by Stephenson & Co., but, to make an engine that would be better adapted to Railroads, of less strength, than are common in England; that would travel with more ease to itself, and to the rail on curve roads—and would be less affected by inequalities in the rail,—than is attained by the arrangement in the most approved engines.

You are aware of the fact, that the Saratoga and Schenectady rail is constructed of timber, capped with an iron plate. This kind of road cannot be expected to bear as heavy weight on the wheels of its carriages as those that have an entire iron rail; and, in order



to obtain that degree of power which is desirable for an engine intended for high speed, it became an object to put the weight on six wheels, instead of four. Engines mounted on six wheels were constructed several years ago in England. The object was to distribute the weight on more points, to make them easier for the road than the four wheeled engines; for even with the iron rail, the heavier carriage is injurious to the road. There was a difficulty, however, in the practical operation on the plan adopted. The load was forced to bear at times very unequally on different wheels, owing to inequalities in the road, and having all their wheels under one frame, they did not work as well on curved roads as the four wheeled engines, which could be geared much shorter. In consequence mainly of these difficulties, the six wheeled engines were abandoned, and I believe no attempt has since been made in England to use more than four wheels.

In the Saratoga engine, I have adopted two distinct frames. One frame embraces four wheels in the same manner as a common waggon: these wheels are all small (32 inches) in diameter, and of uniform size; one end of the second frame is mounted on the third pair of wheels, which are the working wheels, and the other end is rested on friction rollers in the centre of the first frame, to which it is secured by a strong centre pin. The small wheels, with their frame, work on the road the same as an independent waggon; and being geared short, they go round a curve with as much ease as a common waggon; and being the leaders—they bring round the working wheels, and the large frame on which the whole machinery of the engine rests, with as much ease as practicable. By this method it will be seen the engine may pass a curve with the same ease as a common railroad carriage, having the same weight

on the wheels. The machinery of the engine is not affected by the curve motion of the carriage. In order to give the four wheeled engine carriage as much facility as practicable in turning curves, the wheels have generally been placed near together, bringing the bracing points of the frame so near the centre, in a longitudinal direction, as to cause the inequalities of the rail to produce increased motion to the ends of the frame, and consequently to the engine and boiler which is connected with it. This, in the English engine belonging to the Mohawk and Hudson Company, was such as to render the motion very unfavorable to the engine, and severe on the road. By allowing the bearing points to be near the ends of the large frame, and resting one of these points on the centre of the small frame, as is done in the Saratoga engine, this difficulty is almost entirely remedied.

The engine was set up at the shop of the Mohawk and Hudson Railroad Company, under the direction of Mr. Asa Whitney, the present superintendent of that road, and who has from its commencement had charge of the machine shop connected with it.

Thus far the engine appears to do all that was anticipated from it. No test has yet been made of its power; but, from the rapidity with which it generates steam, there appears no doubt of its performing all that it was calculated to do. It passes a curve without any more appearance of labor than a well geared common carriage. The principle of its arrangement does not admit of more strain coming on any one wheel than is assigned for its regular labor. The motion of the engine is highly satisfactory; it moves with almost as smooth and steady a motion as a stationary engine; it travels over the road in an elegant and graceful style.

I made a plan for a six wheeled engine for the Mohawk and Hudson road, which was completed and put in operation before I made the plan for the Saratoga engine. This engine proved satisfactory so far as regarded the principle of a six wheeled carriage, and was an important pioneer for the second plan. The superior ease with which this engine moved, both for its own machinery and the road, led to the determination to alter the English engine on the Mohawk road, so that it could be placed on a six wheeled carriage. As the engine was particularly arranged for four wheels, this could not conveniently be done in any other way than by communicating the power through the intervention of a bell-crank, which was very successfully done by Mr. Whitney. This engine is now working on six wheels, and the ease and smoothness of her motion, over that she had when on four wheels, is very striking.

The arrangement on six wheels does not admit of the wheels under the main frame being connected with those under the small frame; consequently, we can only obtain the adhesion of one pair of wheels. This, however, is hardly of any importance when high speed is wanted.

Should further experience confirm what the operations thus far appear to warrant, the plan of the Saratoga engine may be viewed as a valuable improvement. She has used for fuel a coke of inferior quality, made in New-York, with which she has worked very well. Yours, &c. J. B. JERVIS.

Albany, 18th July, 1833.

HAPPINESS.—Happiness does not so much depend upon our circumstances, as the agreement between them and our dispositions.

GRAVITY.—Gravity belongs more to the ass, than the horse; it oftener conceals ignorance than indicates knowledge.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

For the Fortnight ending July 22d, 1833, inclusive.

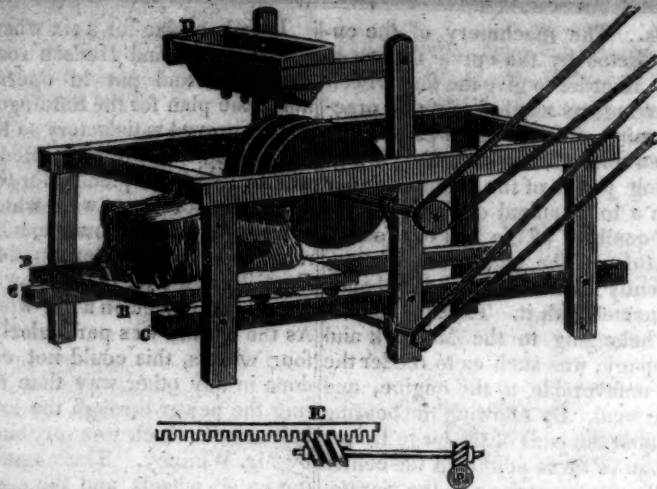
[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.	Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
July 9	6 a. m.	73	29.77	ws-w b s	moderate	w by s	cl'dy-rainy-cl'dy-rainy	July 16	6 a. m.	62	29.96	ws-w	fresh	sw	fair
	10	78	29.80	w	..	{ sw by w }	rainy-cloudy		10	70	29.94	sw	moderate	..	..
	2 p. m.	82	29.80	NW	..	{ NW }	fair		2 p. m.	77	29.93	..	..	..	..
	6	76	29.87	NNW	fresh	NNW	clear		6	75	29.90	..	..	w	..
	10	66	29.98	..	moderate	..	clear		10	71	29.90	..	..	..	cloudy
" 10	6 a. m.	63	30.05	..	..	WNW	fair, with haze fr NW	" 17	6 a. m.	66	29.90	NNW	light	WNW	—light showers
	10	72	30.10	SW	..	..	..		10	70	29.91	..	..	..	..
	2 p. m.	78	30.07	..	..	..	..		2 p. m.	75	29.93	NNW-W	..	..	fair
	6	74	30.01	..	..	WSW	..		6	72	29.98	WSW	faint	..	..
" 11	6 a. m.	63	29.98	..	..	..	..	" 18	6 a. m.	63	30.08	SSW	light	sw	..
	10	74	29.95	SSW	..	..	..		10	70	30.10	SW	..	w	..
	2 p. m.	81	29.85	s	..	..	..		2 p. m.	78	30.12	w	..	..	..
	6	76	29.78	..	..	..	cloudy at NW		6	73	30.13	NW	..	NNW	..
" 12	6 a. m.	68	29.77	N	..	..	thunder storm	" 19	6 a. m.	62	30.22	NNW	moderate	w	..
	10	74	29.80	w	..	WNW	fair scuds fr NW		10	70	30.23	..	..	..	..
	2 p. m.	82	29.81	w by s	..	w	..		2 p. m.	79	30.25	w	fresh	sw	atmosphere hazy
	6	80	29.87	..	..	..	..		6	74	30.19	SE	..	NW	cloudy—light showers
" 13	6 a. m.	70	30.04	ENE	light	w by s	cloudy —fair	" 20	6 a. m.	64	30.08	..	moderate	w	fair —cloudy (night
	10	76	30.06	E—ESE	..	w	..		10	66	30.09	NE	..	NNW	cloudy
	2 p. m.	84	30.06	SSE	..	..	..		2 p. m.	73	30.10	..	..	{ NW }	—fair-scuds fr NW
	6	79	30.03	..	..	{ SSE }	.. light sea scuds fr SE.		6	67	30.12	..	fresh	..	..
" 14	6 a. m.	74	30.04	..	..	SSE	..	" 21	6 a. m.	70	30.15	NW	moderate	..	fair—cloudy in the west
	10	74	30.00	s	..	SW	..		10	73	30.15	N	..	N	cloudy
	2 p. m.	89	29.86	SE—NW	strong	{ S }	{ thun. at 3—heavy thun. sho'r at 4 }		2 p. m.	77	30.15	SW	..	..	fair
" 15	6 a. m.	76	29.85	ws-w	light	sw by w	cloudy—shower at 8—fair		6	74	30.10	SE	..	NW	clear
	10	78	29.90	w by s	moderate	{ NW }	..	" 22	6 a. m.	71	30.08	WSW	light	WSW	cloudy
	2 p. m.	82	29.89	..	fresh	{ W }	..		10	77	30.05	..	..	..	fair
	6	74	29.90	..	..	SW	..		2 p. m.	89	30.01	..	..	NNW	..
	10	70	29.93	..	..	..	..		6	86	30.00	NW	..	..	..
						SW	..		10	84	30.03	..	..	..	..

Average temperature of the week ending Monday, July 15th, 75° 17.

Do, do, do, do, 22d, 74° 40.





*Specification of a patent for an improvement in the method of sawing Marble, and other stone, and cutting or working mouldings, or groovings, thereon, and polishing the same. Granted to Isaac D. Kirk, city of Philadelphia. [From the Journal of the Franklin Institute.]*

References—A, The saws, or the moulding cylinder of soft cast iron; B, Carriage to support and carry forward the marble, or stone; C C, Rails on which the carriage travels; D, Hopper for sand and water; E, Apparatus for advancing the carriage.

To all to whom these presents shall come, be it known, that I, Isaac D. Kirk, of the city of Philadelphia, and state of Pennsylvania, have invented a new and useful improvement in the method of sawing marble and other stone, and cutting, or working, mouldings, or groovings, thereon, and polishing the same; the sawing being performed by means of an improved revolving, circular, metallic plate, smooth, or without teeth, upon the face, or edge, operating by friction with sand and water upon the material to be cut; and the moulding, or grooving, and polishing, being effected by means of the improved revolving moulding and polishing cylinder, or wheel, operating in cutting mouldings by friction with sand and water upon the surface to be wrought; and in polishing by friction, in like manner, with putty, buff, pumice-stone, or some other suitable material; viz. one or more circular metallic plates, smooth or not serrated upon the face, or cutting edge, (copper, or soft iron, are deemed preferable,) are securely fixed, vertically, upon a horizontal shaft, or spindle, of iron, of any required dimensions, passing through the centre of the plate, or plates, and supported at each end by a proper frame of wood, or of cast iron, upon which the shaft works. On one end of the shaft is a cog wheel to connect it to the moving power.

Where two or more plates are used on the same shaft, they are secured at the proper distance from, and parallel to, each other, by circular metallic bands of a thickness adapted to the intended thickness of the slab, or slabs, to be cut; which bands are fitted upon and around the shaft between the plates, or saws. Under the shaft, at the distance of a little more than the radius of the plates, or saws, is a carriage on friction rollers, or wheels, resting on a permanent railway, to support and carry forward the stone, or marble, to the plates, or saws; it is moved either by a rack and pinion, or by weights and pulleys. Over the saws is fixed a hopper, filled with sand and water, which is carried by

a conductor leading from an aperture in its bottom, to the saws, at the point of their contact with the stone or marble. The plates, or saws, may be made of any required dimensions, and must be wrought to a uniform thickness throughout, with the cutting edge smooth, or not serrated, and either rounded, bevelled or flat. The improved moulding and polishing cylinder, or wheel, is of any metal, (cast iron is preferable for moulding, and some of the softer metals, and wood, for polishing,) and of any requisite dimensions, having the converse of the intended moulding, or grooving, either cast or turned upon its surface, or periphery, by means of which any series of mouldings, or groovings, can be wrought on a surface of marble, or stone, at one operation, and in like manner be polished. It is fixed upon a horizontal shaft passing through its axis, which is turned by a cog wheel connecting it to the power, and operates on the material to be wrought, by revolving vertically against its surface in contact with sand and water in cutting mouldings, and in contact with pumice-stone, buff, putty, or some other suitable material in polishing. A cylinder, having a regular smooth surface, is used in like manner for flattening, and for polishing a plain surface. The marble, or stone, is carried forward, and under the moulding and polishing cylinders, by a mechanical arrangement similar to that before described.

The polishing cylinder is similar in form to the above, and used in like manner with polishing powder, as putty, buff, &c. instead of sand, and is made of wood, or some of the softer metals.

The improvement claimed by said Isaac D. Kirk consists in the sawing of marble, or other stone, by means of a revolving, circular, metallic plate, smooth, or not serrated, on the face, or edge, and applied with sand and water, as is done with the straight saw; and also in making or forming upon the surface, or periphery, of a metallic or wooden cylinder, or wheel, the converse of the intended moulding, or grooving; by means of which, a series of mouldings, or grooves, can be wrought on a surface of marble, or stone, at one operation, with sand and water; and in like manner, polished with putty, buff, pumice-stone, or other polishing material.

ISAAC D. KIRK.

REMARKS BY THE EDITOR.—From the information which we have received relating to the above described machine, its invention appears likely to mark an important epoch in the art of working marble; this in-

formation has been derived from a gentleman of much intelligence, residing in Philadelphia, who relates only what he himself witnessed, as regards the operation of the machinery, and which we will give in his own words.

"I embrace," he says, "this opportunity of stating what I have seen of the practical operation of the experimental machinery erected here by the patentee; which, I will observe, was of very rude construction, and capable of great improvement in its application on a more extended scale. The saw used in these experiments was a circular copper plate of thirty-one inches in diameter, attached to a shaft working horizontally on a slight frame of wood, and turned by means of a band and whirl. I have seen this saw, worked by the power of one man, cut through a block of our hardest marble, one foot in length and depth, or one foot square, in thirty minutes; and with increased power I doubt not it might be done in much less time.

"I also, at the same time, saw the moulding wheel, of cast iron, work out mouldings on a slab of marble one foot in length, in one minute and a half, and have no doubt that the same could be done more rapidly with machinery less rudely constructed.

"The marble is left by the saw, as well as by the moulding wheel, or cylinder, in a state fit for polishing, without any preparatory chiselling, or rubbing down with sand; and the polishing is performed in the same manner as the moulding, and with equal or greater rapidity."

We are informed that in the sawing of large blocks of marble in the ordinary way, from six to eight square feet is accounted a good day's work; but that in the cutting of small blocks, a workman can rarely cut more than two or three feet. From the experiment above recited, it appears fair to conclude that ten times as much can be effected by Kirk's machinery, when operating on small blocks, and probably upon any which are not too large for the circular saw. This also, it may be observed, is not limited in its diameter by the same cause which limits those made of a single plate for sawing timber, namely, the expansion by heat, which causes the saw to buckle, an effect which will be prevented in the cutting of stone by the saw being kept constantly wet. The cost of a saw will be saved in the work performed by it in one or two days.

The letter from which we have quoted does not mention the width of the mouldings wrought by the revolving moulding wheel, but it appears likely that the saving of time in this usually slow operation will much exceed that effected in sawing.

We perceive by the records of the patent office, that Mr. Kirk has assigned his right to Mr. Richard S. Risley, of Philadelphia.

MANUFACTURE OF GLASS.—In the whole circle of manufactures there is not any thing more curious than the one that is depicted in the above engraving.\* Materials, which appear of themselves but little fitted for any useful purpose, are blended together so as to form compounds of a new and entirely distinct character. Indeed, an uninitiated person looking at the sand, lead, and pearl-ashes, as they are prepared for the glass houses, would consider that nothing less than the wand of the enchanter could accomplish their change into a hard and crystalline body. The ingredients usually employed in the



manufacture of glass, with their relative proportions, may be thus briefly described :

120	parts of well washed white sand
40	" purified pearl-ashes
35	" litharge
13	" nitre
1	" black oxide of manganese.

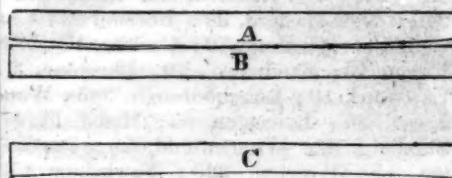
When these materials are collected and properly proportioned, they receive a certain amount of calcination prior to their being placed in the melting pot. This operation is called *fritting*, and is performed either in small furnaces adjoining to the proper glass furnace, and heated by the same fuel, after its principal force has been expended on the glass pots, or else in ovens constructed for the purpose. The use of this preparatory process is to discharge all moisture from the ingredients, and to drive off the carbonic gas. This operation is performed gradually, and carried to the point of semi-vitrification. When the materials are sufficiently "fritted," they are thrown with clean iron shovels, through the side opening of the furnace, into the glass-pots, the fire having been previously raised to its greatest intensity. When filled, the opening is closed with wet clay, excepting a small hole for examining the interior of the furnace. The mass soon begins to heave, and exhibit a mass of liquid grandeur, like the waves of the ocean on fire. During this process, samples for examination are frequently brought out by the aid of an iron rod, and the glass becomes beautifully clear and transparent. The glass may now be considered as completely made, but it requires some time to cool down to the requisite working temperature. It should be just soft enough to yield with ease to any external impression, even to the force of the breath, when impelled against the glowing mass, and in that state it may be bent into any required form. Such, indeed, is its tenacity, that it may be rapidly drawn into a solid string, and wound on a reel, many miles in length. Having thus brought the glass to a state fit for what is technically called "blowing," we may introduce our readers into the workshop itself, which will be best done by the aid of a graphic illustration, and the engraved view at the head of this article will admirably answer the purpose. In the present season of the year the temperature of the blowing-house would shame the hottest portions of the torrid zone, and while we now write, we are laboring under the enervating effects of a visit, many hours back, when the thermometer stood at 140 degrees.

The workmen who are represented in the engraving are each engaged in one of the operations essential to the manufacture of a common drinking glass. For this purpose the operator takes a hollow tube, about four feet long, called a blowing iron, and dipping it into the melting-pot, turns it round till a portion of the glass adheres to the surface. He then holds it near the ground, so that the mass is extended by its own weight, and blows strongly into the tube. The breath penetrating the red hot mass enlarges it, and it becomes an elongated sphere of the requisite dimensions. To separate this globe from the iron tube, an assistant dips the end of a solid rod into the glass-pot, and bringing out at its extremity some of the melted glass, thrusts it immediately against the globe at the part directly opposite the neck, so that it may be firmly united. The workman then wets a small piece of iron with his mouth, and lays it on the neck of the globe, and it

immediately cracks off, leaving the globe open at the neck. This is again introduced into the fire by the new bar of iron, and afterwards rounded on the rails of a sort of arm-chair. In order to detach the foot from the iron, moisture is again applied, and it drops off. There is a final process called *annealing*, which consists in raising the temperature in a separate oven, and afterwards allowing the glass to cool gradually; it is less likely to break.

Pliny attributes the invention of glass entirely to chance, and relates that it was first made in Syria by some mariners, who were driven on shore on the banks of the river Belus; and who having occasion to make large fires on the sands, burnt the *kali* which abounded on that shore; and that the alkali of the plant uniting with a portion of the sand on which the fire stood, produced the first stream of melted glass that had ever been observed.—[People's Magazine.]

\* We think this description may be sufficiently understood by our readers without the engraving.



**STRAIGHT EDGES.**—Among mechanics there are probably but few who do not appreciate the value of a good straight edge for ascertaining the correctness of their work, and I presume that a description of the method practised, and the theory upon which it is based, will be interesting. There are doubtless many that like myself have thought it absurd, even when told seriously, by good practical workmen, that it was impossible to make *one* straight edge, without making *three*, or that one plate of an air-pump could not be ground flat, unless three were ground at the same time.

When I inquired the reason of this, I could get no other explanation from my informant than that such was the fact. Although at that time I considered the idea ridiculous, I have since discovered that my friend was perfectly correct, and had he been able to have stated the cause or theory, I feel assured I should have been convinced.

I am aware, in the formation of straight edges, that the size must depend much upon the work to which it is to be applied, yet some regard to the form and dimensions are advisable, as there is a certain proportion more suitable than any other. An eminent English writer (Dr. Birkbeck) observes upon this subject, that in England they are made of thin bars of steel, about one eighth of an inch thick, two inches broad, and should not exceed three feet in length, as they will otherwise be liable to bend.

Three such pieces should be prepared by planishing, and one edge of each made as straight as possible by the common means of filing and planing, when they are perfected by grinding them mutually with each other, fine emery and oil being added to assist the operation. They are finally to be finished with crocus martus, or a species of loam well washed, to separate it from any coarse siliceous particles.

By referring to the cut at the head of our article, we will attempt to show the necessity of making three, to produce one perfect

straight edge, and also of repeatedly changing them at proper intervals until each edge is correct. Let A and B represent two steel bars prepared for grinding; let us then suppose the edge of A to be slightly convex, and that of B slightly concave, or nearly straight, then by grinding A and B together the two edges will meet, but will not be straight, because the convex bar A has ground the lower bar B more concave, and although the two edges come in close contact, yet the form is unchanged, and, however long the grinding should be continued, the object could never be attained.

But if we now take a third bar C, the edge of which may be either concave or convex; if concave, and we grind A and C together, the edges of B and C will then be similar, and if placed against one another, the difference will be doubled, and can readily be perceived; these two are then to be ground together, and thus the three edges being alternately and reciprocally ground together, they will mutually cut down and destroy each other's imperfections, and a perfect straight edge will ultimately be produced on all the three.

The same theory applies to the levelling of air-pump plates, and other flat surfaces in machinery where great nicety is required, and the best method of producing them is to proceed in the manner above described.—[Young Mechanic.]

**CO-OPERATIVE LABORERS.**—Many of our readers are no doubt aware that some well-intentioned men have been endeavoring for a long time to effect a great change in society, by establishing a new arrangement, called Co-operation, which assumes that the laborers should be at the same time the capitalists. There can be no sort of objection to this principle, when it is proposed to carry it into action without any prejudice to the existing laws of property; and, no doubt, many of the evils of our social state might be removed, were all persons concerned in the business of production to have a sort of proprietary interest in the commodities produced. The mistake of those who exclusively call themselves co-operatives, is that of assuming that the love of individual property can be got rid of by a very short process of reasoning, and neglecting to avail themselves of the many *practical* modes in which industry might be made more productive than at present, by a union of forces, in which the personal interests of every laborer would be dependent upon the success of the business in which he is engaged. There are many examples of such real co-operation already existing in the world, some of which we may mention, from time to time. We shall now state a few facts regarding the mode of navigating vessels in the Mediterranean, by men having a common proprietorship.

With the exception of some large ships that belong to wealthy merchants of Hydra, Spezzia, &c., chiefly employed in the corn trade in the Black Sea, nearly all the Greek vessels are navigated by men taking fixed shares of the profits or freights obtained. The captain has more shares than the common men, and so has the second in command, who is generally intrusted with the *contabilità* or accounts. When the vessel is small and the voyage short, it is sometimes the custom for each individual to lay in his own wine and provisions; but the general practice is for the captain or the second to purchase a stock for the whole, the amount



of which is put on the debtor side of the account, and at the end of the voyage subtracted from the gains made: the distribution being fairly conducted during the voyage. The same system is found nearly all over the Mediterranean. The Neapolitans, the Sicilians, and the Genoese, rarely navigate in any other way.

The Italian captain has sometimes a share in the vessel, which proportionately increases his share in the profits. He is occasionally, though rarely, except when the craft is very small, the sole proprietor; but even in the latter case the men are engaged just in the same way. A small vessel called a "Bovo," or a "Paranza," of not more than sixty tons, not worth £150, is often held by as many as six or ten different proprietors.

From the town of La Torre dell' Annunziata, in the Bay of Naples, there is a coral fishery carried on. They sometimes fish about Sardinia, but the great place is on the coast of Africa, near Bona. They leave Naples in little fleets of four, six, or eight, open boats, and availing themselves of the fine summer season, venture right across the Mediterranean. These boats are navigated on the same principle. Sometimes the boat is the united property of the men in it, who give one of their number a larger share of the profit on account of his superior nautical skill or experience in the fishery. The abstemious manner in which these Mediterranean sailors, (Italians, Greeks, Slavonians, Spaniards, Provençales, and all,) live is astonishing. Bread, *legumes*, olives, salt-fish, a little macaroni, are their sole support. They scarcely ever taste meat.

A large portion of the shore boats that ply about the harbor at Smyrna are manned by Slavonians, from about the Bocca di Cattaro, and by our subjects the Maltese. On an average each boat has two men; to them the boat belongs, and they divide their profits every evening. When an old boat is to be repaired, or a new one bought, the two partners club together; or sometimes, in the case of the purchase of a new boat, a third party is admitted, who receives a given share of what the boat makes.

In the Italian ships such of the sailors as have a little money are allowed to invest it in goods, and to carry these goods with them, disposing of them as they choose at the ports they touch at or are bound to. This is called the "*Paccotiglia*." Intelligent and prudent sailors often make more money this way than by their shares in freight.

Those who have attended to this system state that the sailors are deficient in discipline; but they also observe that, in proportion as the men are of a steady and intelligent character, this evil vanishes. It is no doubt true that *mutual* interests can only be properly understood by men far advanced in civilization. Ignorance is always selfish.

**BOBBIN-NET TRADE.**—A very valuable sheet of "Facts and Calculations illustrative of the present state of the Bobbin-net Trade," has just been published by a Mr. Felkin, of Nottingham. The results which it presents are exceedingly curious and instructive. The capital employed in the trade is estimated to amount to £2,310,000; the number of persons—men, women, and children—to whom it gives employment, at 211,000. The quantity of raw cotton consumed in the trade annually is 1,600,000 lbs.—value, £120,000; this cotton is manufactured into yarn, and its value increased to £500,

000; the yarn is then worked into 6,750,000 square yards of power-net, 15,750,000 square yards of hand-net, and 150,000 square yards of fancy net, worth altogether £1,826,245. Of raw silk there is also used about 250,000 lbs.—value £30,000; which, when thrown and worked into 750 square yards of silk net, becomes worth £65,625. The total quantity of cotton and silk bobbin-net, annually manufactured, is 23,400,000 square yards—value, £1,891,870. Of this, about one half is exported in a plain state; three eighths are sold unembroidered at home; and the remaining one-eighth is embroidered in this country, which increases the ultimate value to £3,417,700. The total number of machines employed is stated to be 4500; of machine owners, 1382. Of these machines, 1000 are worked by power; and of the owners, above 1000 work in their own machines. The total distribution of these machines is stated to be as follows: In Nottingham there are 1240; Old Radford, and Blooms Grove, 240; New-Basford, 95; Beeston and Chilwell, 130; Gedling, 10; Carlton, 10; Long Eaton, 10; Sandiacre, 10; Ilkestone, 45; Eastwood, 10; Loughborough, 385; Woodhouse, 30; Leicester, 95; Mansfield, 85; Sheffield, 10; Wimeswold, 25; Ruddington, 15; Tiverton, 220; Tewksbury, 50; Taunton, 35; Warwick, 5; New-Radford, 140; Lenton and Middleton Place, 70; Iron Green, 160; Old Basford and Bulwell, 55; New and Old Snenton, 180; Carrington, 50; Arnold, 30; Stapleford, 25; Stanton by Dale, 5; Heanor and Loscoe, 45; Derby, 185; Quorndon and Montsorel, 35; Sheephead, 15; Donington and Kegworth, 15; Chesterfield, 40; Newark, 10; Costock and Leake, 20; Melton Mowbray, 20; Barnstable, 180; Chard, 190; Isle of Wight, 80; other places, 195. Total, 4500.

Prosperous as this manufacture is in its general results—a prosperity the more remarkable, that twenty years ago there were not a dozen bobbin-net machines in the whole country—we regret to find that it has been attended in its progress with a good deal of individual distress:

"It is a lamentable fact that one-half or more of the 1100 persons specified in the list as owning one, two, and three machines, have been compelled to mortgage their machines for more than they are worth in the market, and are in many cases totally insolvent. This has chiefly arisen from the fall in prices of nets, beyond the reduction in prices of cotton and wages. This class of persons having become indebted to the cotton merchant, have been compelled to pay a comparatively excessive price for the thread they have used, and to sell their goods at the lowest price of the market. Besides, their machines are principally narrow, and make short pieces, while the absurd system of bleaching at so much a piece, goods of all lengths and widths, and dressing it for so much, all widths, has caused the new machines to be ell-wide, and capable of producing long pieces, and, of course, to the serious disadvantage, if not utter ruin of the small owner of narrow machines."

The bobbin-net which is exported in a plain state is embroidered chiefly in Belgium, Saxony, and, until recent events, in ill-fated Poland. Mr. F. thinks that but for the high rate of wages in this country, much of the work which thus falls into the hands of foreign embroiderers would be executed at home; and yet, one would think that the

wages of the English embroiderer could hardly fall lower than they have already done. Mr. F. states, that he had under his eye, while writing his "Facts," some "splendid specimens of silk bobbin-net shawls, embroidered with the greatest care and beauty by young women who had worked upon them six weeks, for six days in the week, and fourteen hours a day, and had earned but one shilling a day by such unremitted and anxious labor." That cheaper bread and freer markets would better this as well as every other manufacture of the country, we by no means, however, intend to dispute; and we fully concur in the view which Mr. F. takes of the beneficial tendency of the two great measures of reform, alluded to in the following concluding remarks:

"If one million and a half sterling, or nearly, be paid abroad for the embroidery of bobbin-net, because the rate of wages is lower there than in this country, and if our rate cannot and ought not to be reduced, while provisions are at the actual average—if, also, there be any just ground to fear the successful competition of foreign low-priced bobbin-net laces, even in the home market,—have we not a powerful argument for the abolition of the tax on imported corn? It may also be reasonably inquired why an article, the demand for which has extended itself with a rapidity unexampled in the history of manufactures over the continents of Europe and America, should still be almost unknown eastward of the Cape of Good Hope, where it would be thought at least equally useful and ornamental? The fact of the East India Company's monopoly, it is presumed, may be advanced as a sufficient, though, to the trade of Nottingham, a very unsatisfactory reply. For I would here observe, that as no one can say bobbin-net may not, in the event of this monopoly ceasing to stand in the way of its free export and sale, be generally adopted in India and China, so it is a matter of easy demonstration, that if only every woman at the head of a family in India (say nothing of China) were to use but one square of bobbin-net a year, the whole of the existing machinery of the trade, full handed and worked eighteen hours a day, would scarcely produce a supply sufficient for that market. Worked at that rate, our production would be under thirty millions of yards a year, and there are upwards of twenty-seven millions of mothers of families in our Indian possessions. Were it now to become in demand for China (and it is quite as likely to be so as tea once was for England), the quantity exported thither might possibly be immense, the population of China being three times that of India. The writer of these remarks feels that the evils contemplated as likely to result from increase of machinery, and consequent over-production, are too serious not to demand a careful and candid consideration, and is confident all will be convinced on reflection, that rather than attempt to decry the increase of the power of production, it is far more rational, and will ultimately be more successful, to draw the attention of the trade to any practicable means of increasing the demand."

"We can export a durable and elegant article in cotton bobbin-net at 4d. a square yard, proper for certain useful or ornamental purposes, as curtains, &c.; and another article, used for any purposes in female dress, at 6d. the square yard."

**TO IMITATE LEAF-GILDING ON LEATHER.**  
—Take some calf-skins which have been



softened in water, and beat on a stone to their greatest extent whilst wet; rub the grain side of the leather with a piece of size, whilst in a state of gelly; and before this size dries, lay on a number of silver leaves. When covered with the silver leaf, the skins are to be dried till they are in a proper state for burnishing, which is performed by a piece of large flint fixed in a wooden handle; the appearance of gold is then given to the silver surface by covering it with a yellow varnish, or lacker, which is composed of four parts of white resin, the same quantity of common resin, two parts of gum sandarac, and two parts of aloes. These ingredients are to be melted together in an earthen vessel, and after being well mixed by stirring, twenty parts of linseed oil is to be poured in; and when the composition is sufficiently boiled to make a perfect union, and to have the consistence of a syrup, half an ounce of red lead is to be added, and the liquid passed through a flannel bag. To apply this varnish, the skins must be spread out upon a board, fastened down by nails, and exposed to the rays of the sun, and when thus warmed the white of an egg is to be spread over the silver. After it is dry the varnish is laid on which will dry in a few hours, and is very durable.

*Descriptions and Drawings of several varieties of Fancy Pigeons.* By D. F. A. [For the New-York Farmer.]

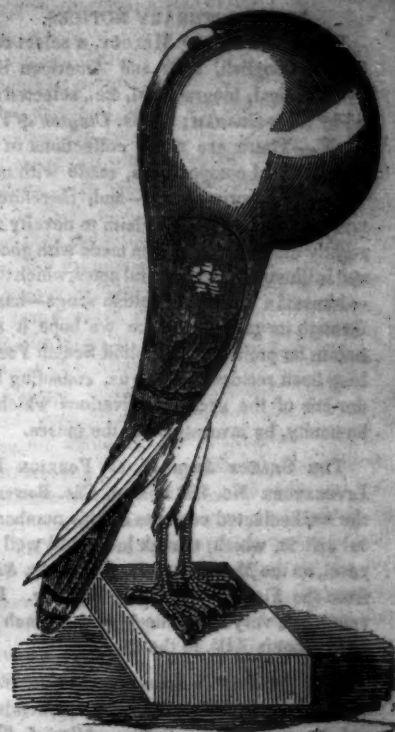
MR. EDITOR,—The productions of nature have ever been to me a delightful study and doubtless is so to most of the numerous readers of your Farmers' journal. While meditating on their endless varieties, habits, and shapes, the mind is enlarged, and we are imperceptibly led to adore the great First Cause. In my early youth the fields, the woods, and their numerous inhabitants, bore to me a more familiar face than that of man. Free as the air, and like its feathery race, I shunned human abodes, and found companions in the leafy shade. But, alas! fate assigned me a different sphere, and torn from my much loved hill and glen I now pine in the smoke and dust of a crowded city. A little tea-tray of earth, which my landlord calls a garden, and for which he makes me pay an extra rent, I have long neglected—for it made me melancholy: the poor little sickly plants that struggled hard for life through smoke and dust, and endured the oft-repeated buffetings of the cat, looked too sad, too much unlike their fellows, who had so oft refreshed my eyes with all their luxuriance and splendor. Then next bethought I of the feathered tribe, and bought and imprisoned many a songster wild; but the poor things sang plaintively, and looked so sad, I could not keep them there; and one fine morn in spring, I set the warblers free. Ungrateful birds! not one has ever returned to make me glad with a song, although the stunted peach tree blossoms, and affords a perch before my window.

Next came domestic doves and fancy pigeons. These had so long relied on the fostering care of man, that they would starve in the harvest field. I liked them much—they would be friendly, and were every day the same—would hover round my head, or perch on my shoulder, and peck around for their food. I have many sorts and colors, brought from different climes, forming a vast republic, always wooing, laying, hatching, rearing—some for use and some for show. I will describe a few of the principal sorts, to

Carrier Pigeon.



English Pouter.



accompany the drawings, which you, Mr. Editor, know to be correct, from having seen the living specimens, and from the fact that the branch of the fine arts, which I have long followed as a profession, qualifies me for the undertaking. But, perhaps, some of your readers may wish to keep them too: I will, therefore, first describe the apartment. I have chosen a large garret with windows to the sun. Before one of them is a cage several feet square, made of lath and wire, so that by hoisting a window, they can take the air and feel the rain without being able to escape. The room is all shelved about with boards just as they came from the timber yard, 18 inches one above the other, and partitioned every three feet. In each end of these partitions is placed, for nests, a common earthen pan, 3 inches high and 9 across. A little straw is placed in each, for some will not make their nests. These partitions are all white-washed with thick lime and water, to make all look light and clean. They should be done so once or twice a year. In the middle of the floor is a three-gallon stone jug turned upside down, with the neck in a shallow small pan. The jug, supported by an iron hoop with feet, will let the water into the pan no faster than it is drunk by the pigeons, and consequently is always cool and clean. A broad flat box about three inches deep should contain food—Indian corn and peas: or a box, called a hopper, may be made on the same principle as the water apparatus. Now for the different varieties:

First on the list stands the Carrier Pigeon, which fanciers call the King of Pigeons. This bird is so well known by report that few have not heard that it will return to its home with a letter from a very great distance, and at a rate five times faster than any animal can travel the same distance. The print is taken from one that has lately been imported, and can be seen at the Pigeon Society's Rooms, corner of Broome and Forsyth streets, New-York. This variety should be of one uniform color—either black, blue, or dun. Its distinctive mark is the encrusted flesh round its eyes and beak. They are good breeders,

and worth from \$10 to \$15 a pair; though the bird from which the drawing is taken, \$30 would not purchase.

The English Pouter. This is the most familiar of all pigeons. It has the most singular appearance. Under its beak it has a bladder or crop, which it can at pleasure fill with air to the enormous size of 18 inches in circumference. They should be of a black, blue, red, or yellow color, and have a white half moon on the front of the crop, white flights to its wings, and white legs and thighs; also, a few little white feathers in the form of a rose on its pinions; of whatever color the body is, the aforesaid parts must be uniformly white. The red and yellow birds have generally white tails, but the tails being of the same color is preferable. These birds are worth from \$10 to \$20 per pair.

The Almond Jambie. This is a most splendid little bird, being the smallest of the domestic pigeons; they are spotted all over with yellow, red, black and white, with a changeable green around the neck: they are said to resemble the best broken tulips when the most perfect; the female is generally less gay, being nearly of the color of the shell of the almond, from which nut it derives its name, as that color ought to prevail. They are valued more in proportion as the color is rich and the beak very small: they are very merry birds, and when flying they perform curious evolutions in the air, and will ascend a very great height, keeping on the wing for two or three hours occasionally: they are good breeding birds, and give but little trouble. They sell at from three to ten dollars per pair.

The Fantail. This bird is a very singular variety of the Pigeon tribe, its tail being turned back so as to meet its head: it is also very large, being composed of from 24 to 36 feathers: these are spread out so as to resemble a lady's fan, which I have given this pigeon the name of Fantail: they are most preferred when of a perfectly white color, and some are ornamented with a very lofty tuft at the back of the head. They are worth about \$3 per pair, and are good nurses, &c. D. F. A.

Beekman st. N. Y. June, 1833.



## NEW-YORK AMERICAN.

JULY 20, 22, 23, 24, 25, 26—1833.

## LITERARY NOTICES.

**THE FLOWERS OF MELODY**, a select collection of Scotch, English, Irish and American Songs, with notes critical, biographical, &c., selected and arranged by JOHN GRAHAM; 2 vols. Clayton & Van Norden, N. Y.—There are many collections of songs, and other lyrical compositions, made with more or less taste and discrimination—and, therefore, this now under notice can lay no claim to novelty; but it may rightly claim to have been made with good judgment and is illustrated with useful notes, which the compiler—himself a writer of Scottish songs—has interspersed through its pages. Hence we hope it may remunerate its projector, the blind Scotch Poet, who has long been resident among us, consoling himself under one of the greatest privations which can befall humanity, by invocations to the muses.

**THE SELECT JOURNAL OF FOREIGN PERIODICAL LITERATURE** No. III. Boston, *Chas. Bowen*.—Among the well selected contents of this number, is a capital article, which, though long, will well reward perusal, on the Memoirs of the *Duc de St. Simon*, taken from the *Foreign Quarterly Review*. It is the essence of a very voluminous work, which paints the age of Louis XIV. to the life.

**JOHN HOPKINS' NOTIONS OF POLITICAL ECONOMY**, by the author of *Conversations on Chemistry, Political Economy, &c.* Boston, *Allen & Ticknor*.—It would really seem that the disciples of *Adam Smith* and *Ricardo* are now to be sought among the fair sex—at least it is certain that to two ladies do we owe at present, publications on Political Economy, more calculated to extend the knowledge of that science, and in a popular and attractive way to inculcate its beneficent principles, than any others we know of. Of *Miss Harriet Martineau's* writings, we as yet have had no opportunity of judging, not having seen, tho' we have heard much of, them. But *Mrs. Marcet*, the author of the little volume now before us, is an old acquaintance, through her "*Conversations on Chemistry*;" and it is gratifying to be able to say, that the promise of that and her subsequent work, on "*Political Economy*," is abundantly realised in "*John Hopkins' Notions*." We wish every laboring man in the United States could have a copy of *John Hopkins' Notions* put into his hands: for it would tend to correct many errors, and dissipate many injurious prejudices. The Boston publishers have done good service in reprinting this book; and they have, as is the Boston fashion, reprinted it handsomely.

**THE NATIONAL PORTRAIT GALLERY of distinguished Americans**—Conducted by *James Herring*, New York, and *James B. Longacre*, Philadelphia: No. IV.—This well executed publication sustains its promises well. The portraits in the number before us are well engraved, though not always, as in the case of that of Gov. Tompkins, taken from good likenesses. Gov. Tompkins, Henry Clay, and Major General Moultrie, of South Carolina, are the subjects of this number; and their biographies are well, though rapidly sketched, and of course *en beau*.

**The School Geography**, by JOHN J. CLUTE. New York: SAMUEL WOON & SON.—Of this volume of 310 pages, 224 are dedicated to America; and that is as it should be, because in an elementary book, which is all this professes to be, much space, attention and care should be given to our own country. When boys know the Geography of their own land thoroughly, they will soon desire to find out that of other countries. After a general outline of the geography of the United States, this volume furnishes a geographical, historical and statistical account of each State separately, with a neatly engraved though necessarily small map of every State. There

is also a useful table of the comparative length of rivers in North America, and of the height of mountains in different parts of the world. It will we dare say surprise many of our readers to know that there are some six and twenty rivers in North America longer than our Hudson.

**BOY'S AND GIRL'S LIBRARY OF USEFUL AND ENTERTAINING KNOWLEDGE**, No. XIV. N. Y. J. & J. Harper.—"The Perils of the Sea" constitute the attraction of this number, which appropriately enough commences with the destruction by fire of the Kent, British East Indiaman, in the Bay of Biscay, in Feb. 1825, having on board more than 600 souls, all of whom but about 60 were rescued by the Cambrian brig, in a manner almost marvellous. If Boys and Girls do not now take an interest in learning to read, it certainly is not for want of attractive books.

**THE SOURCES OF HEALTH & DISEASE IN COMMUNITIES, &c. &c.** By HENRY BELINAYE, Esq. Surgeon Extraordinary to the Dutchess of Kent. Boston—ALLEN & TICKNOR.—The object of this cleverly written treatise is, to induce inquiry and reflection among those in authority, as to the means to be taken to remove the sources of disease from the midst of populous communities, and to guard, as far as human precautions can, against the introduction and spread of pestilence. The inquiry is one worthy of all attention; and although on this as on every other subject connected with the public health and means of preserving it, doctors will differ, yet, as in the last resort, magistrates and other persons in authority, must come to a decision of some sort, we are glad to see a treatise, which will, at least, induce those who read it, to reflect and reason a little, about what is to be done. The volume is small, neatly printed, and quite attractive as mere reading.

**EXAMPLE, OR FAMILY SCENES: Phil.—KEY & BIDDLE**—1 vol.—This is a handsome re-print of, as we take it, an English book, without any author's name. It is the story of a young man of fortune and corrupted mind—with an only sister, beautiful, volatile, and thoughtless, launched early into the world, without parental supervision—reclaimed from the paths of temptation and error by the example, and untiring solicitude for their spiritual welfare, of the family of a relative. The design is good, though not, as it strikes us, very skillfully executed. The incidents of the story are nevertheless well told; and the sequel is, as it should be, full of encouragement—never to despair while kindness yet retains a hold upon those, we would reform.

**MISERRIMUS: N. Y. J. & J. Harper.**—This single Latin word, signifying "most wretched," engraved upon a tombstone in Worcester Cathedral, England—without name or date, or addition of any sort—has suggested this tale; which, laid in the time of Charles II., purports to delineate the crimes, sufferings, and despair, which could alone—it may be conjectured—explain such a hopeless inscription, on the last earthly resting place of one who must have "cursed God and died." We are disappointed in it—for much more might have been made out of so dark a theme. The incidents assumed by the writer are altogether unnatural and improbable; and, tho' wrought out with occasional power, fail to affect as a whole. We dissent, we perceive, in this judgment from those of many English journalists, whose favorable opinions are prefixed by way of puff preliminary to the volume—but having read the book, under the influence of such praises, we nevertheless adhere to our own opinion.

**A MANUAL FOR THE AFFLICTED, &c. &c.**, by the Rev. THOMAS HARTWELL HORNE, of St. John's College, Cambridge. Boston: ALLEN & TICKNOR.—Bishop Doane, of New Jersey, has the merit of introducing to American readers this volume, resting on, and almost exclusively written in, the language

of scripture. Bishop Doane has prefixed an introduction, in which the aim of the author is well set forth; and he has added, by way of appendix, some devotional poetry, well selected and appropriate. It is altogether a valuable little volume.

**THE GENTLEMAN AND LADY'S BOOK OF POLITENESS, &c.**, by Madame CRLNART; 1st American from the 6th Paris edition. Boston: ALLEN & TICKNOR.—An amusing and well written little work, dedicated to the youth of both sexes, and purporting to teach the rules of politeness and becoming deportment in all relations of life, as deduced from the usages of the politest people in the world—the French—cannot but find many readers among us. Manners, it has been well and truly said, are minor morals; and therefore it is in some sense a duty, as it is always an advantage, to cultivate them. All with whom we are casually or even for moments only thrown into contact, can judge of the kindness and politeness of our deportment, and be more or less affected by them. Hence, upon a principle of enlightened self-interest, as well as of enlarged benevolence, it is a worthy object of effort so to present ourselves always as that those in whose company we are will be pleased. Practice, indeed, is the only sure guide in this matter; yet there are certain rules preliminary which may and should be learned, and these the book before us professes to teach.

**A POPULAR GUIDE TO THE OBSERVATION OF NATURE**, by Robert Mudie, Author of the *British Naturalists*: N. Y., J. & J. Harper.—The first thing that struck us after running over a few pages of the book, was, the paltry and contemptible wood-cuts, which are allowed to deform one of the most delightful volumes which the Harper's Family Library has introduced to the public, standing there frequently with their blurred outlines, and blackened shading, as if in mockery of the vivid passages they were doubtless intended to illustrate. The greater part would make Nature indignant at seeing her forms thus caricatured, unless the remainder soothed the goodness into complacency by reminding her of the chaotic lumps out of which she has reared this beautiful and harmonious creation. Can there be a more delightful study than the contemplation of that creation, or what books are worthier of perusal than those which bringing its secrets beneath our eye, teach us to exercise the priceless faculty of observation, and unlock, as with a magic key the external world around us? The strong love of nature, in an unaffected and manly mind, is an ever-salient fountain of pleasure, which the world can never dry up, or man divert; a perennial flower of delight, which no chance or change of life can cause to droop or wither.—The storied associations of the school-boy, are broken by the realities of the world, and the romance of youth with its dreams of love and heroism, like that false light which precedes the dawn, is lost in the glare of manhood—but the love of nature, of the broad streams and the blue mountains we have swam or clambered in our childhood, of the tangled thicket through which we have tracked our boyish quarry, or the tall forest that has echoed to our shout, when life was young—this is a love which knows no change, and passeth not away; and he in whom that love is strong has a hoard of wealth in his own bosom, that can purchase him enjoyment until its coffers decay in death.

No! There are no pleasures but pall, no pursuits but tire, no joys but are linked with pain; no search after knowledge, or happiness, or power, but ends in disappointment; no one study that is satisfactory, but this high and holy, this ever fresh and beautiful one of the glorious creation around us,—this ennobling contemplation of "God's own temple," whose pavement we tread and whose dome is stretched above us. Love of the country is the earliest instinct of our childhood, and though the artificial ha-



bits and depraved tastes of maturer life may for a while supplant or suspend it, it is through life an ever recurring feeling; stealing continually between us and the bustling world, like glimpses of a better state—like hope itself following us to the tomb—and even then surviving in the wish that the turf may bloom there unmolested, and no structure but the cloistered boughs which bend above it prevent the dews of Heaven from weeping over our green resting place.

To awaken this feeling in hearts naturally devoid of it, if any such there be, and to regulate and elevate it in character in those already blessed with it, is the object of the book before us. And the writer seems to have brought just those qualifications to the work which could have been desired by the most ardent wisher of a successful issue to his labors, viz: an observing analyzing mind, glowing with a love of its subject, and eloquent in illustrating what it logically recommends.

We are sorry that our limits prevent us doing justice to this work, by making more than a few brief extracts.

*The inefficacy of thought unaccompanied by observation.*

Let us consider those means: Do we gain knowledge of a subject by thinking about it? We do not. By thinking, we may arrange our knowledge, put it into new shapes, and make it the means of letting us see what further knowledge we want, and what service that future knowledge is to be to us, just in the same manner that a tradesman, by examining his stock, can so arrange his goods, as that he can at once put his hand upon what he wants, and also know what additions it is most necessary and proper to make; but just as a tradesman cannot, by any examinations and arrangements add one tithe to the quantity of his goods, so neither can we, by any thinking in which we may engage, add any thing new to the stock of our knowledge. By thinking, we can arrange what we know, so that we can more readily use it, and we make room for other knowledge; but, we cannot think ourselves into an acquaintance with even the simplest thing that we do not know by some other means. It is the belief that we can; that thought will do what thought never did, can do, or was intended to do,—which lies as a stumbling-block in our path, and hinders us from knowing a great many things that would be very useful as well as very pleasant to us.

*The possibility of Thinking out upon a matter.*

When we long continue thinking on the same subjects, especially if there is any thing dispiriting in them, we do feel a sort of languor, and pass into a reverie, or dreamy state, in which we not only lose the command of our bodies, as we do during slumber, but in the end lose the memory of our thoughts, just as we do in profound sleep, during which we have no dreams. Everybody must recollect instances of having thought upon subjects till the memory of all the particulars was gone; and, when an author writes an original book upon any subject that requires close and profound thinking, the chance is that he shall know less of what is in the book after he has just finished the writing of it, than an intelligent reader after he has glanced it over. "Don't ask me about that, for I have written upon it," was an habitual saying with a veteran both in science and literature; and Abernethy's constant referring of his patients to "My book" had philosophy in it, whether he understood that philosophy or not.

THE MECHANICS' MAGAZINE and Register of Inventions and Improvements, Vol. I. The number published to-day completes the first volume of this excellent periodical. It is faced with a strongly engraved portrait of Eli Whitney, accompanied by a valuable memoir of that celebrated individual, whose interesting life is perhaps the best biography that can be placed in the hands of a young mechanic, to spur him on to industry and exertion, and give him just ideas of the real respectability attaching to his occupation, and the enviable distinctions to which the vigorous pursuit of it may lead. "In all countries," says the well written preface of this volume, "the importance of artisans in the scale of society has been undervalued. Those who have led on armies successfully, either in defence of their country, or who have waged war in consequence of some

real or supposed grievance, as well as those who have promulgated laws which were considered beneficial to the government under which they lived, have been held up to the admiration of the world; and the benefits they have bestowed upon society form

"The theme, the admiration, and the song," of poets, historians, and philosophers. Yet there is no instance on record where the first constructor of a new machine is considered in the same view: he is looked upon as a mere projector of a useful invention, which is to be improved upon and brought to perfection by others. This should not be so: surely ROBERT FULTON, JAMES WATT, ELI WHITNEY, and a host of others, deserve the thanks of the people of all nations for their inventions, in an equal degree to those who have promulgated laws, however beneficial they may operate to mankind at large; and much more so than those who have been engaged in a fierce, uncalled for, and relentless war, in many cases for the purpose of upholding tyranny and oppression.

"It is a curious fact that the power of combining machines and constructing poetry have frequently been united in the same individual. This has been overlooked by the great bulk of mankind. We have the authority of Mr. Stuart Meikleham, in his account of Steam Engines, for the following facts: Hooke made verses as well as machines; and when he presented thirty-seven different projects for flying, had his attention been directed to express his thoughts in metre, he had previously shown a facility for describing the glories of his mistress' eyebrows in as many sonnets. Lord Worcester also made verses—Sir Samuel Moreland indited love songs—Watt, in his youth, was a rhymester—Arkwright was famous for verses, which cut as keen as his razors—Rennie chanted his own lyrics, which were distinguished for their spirit and taste—and Telford, while building rough stone fences as a journeyman mason, was an esteemed contributor to the poetic corner of the Scot's Magazine; Sir W. Congreve wrote poems, as also Sir Christopher Wren—Sir Humphrey Davy wrote his address to St. Michael's Mount in the heroic measure, long before he invented his safety lamp—Dr. Arkwright distinguished himself for poetical compositions many years before he invented the power loom—Milton's hell gates move on more than mortal hinges; and his war chariots may yet form a subject for illustration in a mechanical college. The horse of Epeus has lately been adduced as an early locomotive! Homer's description of cars shows that he had an eye for beauty in cars which would have carried them to perfection; Ferdousi, of Persia, has spun one hundred and fifty thousand couplets, and has found leisure to construct several complicated pieces of machinery of his own invention—among them are spinning jennies, paper machines, steam engines, and a printing press."

These instances, it is true, answer the object the editor has in view in quoting them, by showing the important station which some mechanics have held in society, and proving the fallacy of the argument often advanced, that "the mere inventor takes no interest in any thing but his own inventions." But a better reply is at hand in the book before us. Any class of people which can command the ability displayed in a work like this, and give that work a support which shall carry it forward with the variety of instructive and entertaining matter which enriches the pages of this volume, require no further argument to assert their just influence in the community, and no better organ to represent their claims and to elevate them in character. The price of this volume, \$1 50, places it within the means of almost every young mechanic.

NATURAL HISTORY OF THE FISHES OF MASSACHUSETTS, by Jerome V. C. Smith, M. D. Boston, Allen & Ticknor.—The disciples of old Isaac Walton will find in this book an agreeable addition to their piscatory library. It contains not a little new and some valuable information upon ichthyological subjects generally, with many useful observations in reference to those important fisheries on our Eastern coast, which constitute a nursery for a race of the hardiest sailors in the world. The style, though not exactly that which makes Sir Humphrey Davy's "Salmonia" one of the most attractive volumes extant, is still such as to make the book very readable, and recom-

mend it to those having a less immediate interest in the subject, than the professed sportsman or naturalist. There are occasional marks of haste, however, in the work, which the author's oft repeated excuse of being "hurried through the press," will hardly cover. The most prominent that strikes us is a confusion in the names of places and countries alluded to, in describing the habits of fish. The author, in writing of those fish which frequent the waters of Massachusetts, very naturally and properly alludes continually to those of a "similar" description which inhabit the lakes and streams of England and other countries. But the similarity of the names of places in New England to those abroad—arising from that miserable usage which prevails all over the Union, of making the cities of Europe stand god-father to the villages of the Atlantic States, and the towns of the Atlantic States again bestow their nomenclature upon the hamlets of the West—diminishes the value of the information conveyed by confounding all geographical distinctions. An Englishman writing upon subjects of natural history in this country, might very properly allude to places in his own without specifying in what land they were found; but an American, writing for his countrymen, should never make these foreign references without adding something to show that he has shifted the scene of his observations to other climes than ours.

This defect is however as common in most American writers, from the paragraph makers of newspapers up to the compilers of quartos, as if we were still a provincial people, and speaking always of "home." We need hardly add, that the ridiculous poverty of invention, or want of taste, in not adopting the Indian names of places, displayed in the nomenclature of half the natural and artificial objects of interest in the country, is likely to keep up the confusion for ages. Another defect in Dr. Smith's book—and more important, because less expected—is the want of an index—a mere mechanical appendage, it is true, but still one not readily dispensed with in a work of this kind. With these two, as some will think, trivial blemishes, which can be readily remedied in a future edition, the work contains enough useful and entertaining matter, displayed in a very modest manner, to make us take pleasure in recommending it. We quote as follows:

*Ferocity of the White Shark.*

The white shark, in his wide, dilatable jaws, has six rows of sharp, triangular teeth, which can be raised or depressed by appropriate muscles, at pleasure. Its velocity is such, that nothing seems to be able to escape, and its greediness is never satisfied. By one gripe of the jaws, they can cut a man in two. A red hot cannon ball is sometimes lowered over the side to one of these disagreeable followers of a ship, which the seaman has the satisfaction of seeing the shark receive into his yawning throat.

At the pearl fisheries of South America, where white sharks are numerous, visiting the mighty caverns in the rocks, the water being so clear that a small object may be seen at considerable distance, the divers, familiar with the character of the monster are obliged to go armed in self defence. For this purpose, some carry a long sharpe knife. As the shark's mouth is placed somewhat under the head, he endeavors to get over his intended victim, and if he discovers no disposition in the Indian to move, gently settles down over him with his horrible mouth widely extended. With the coolness of a philosopher, the instant he is near enough to be reached, the diver plunges the knife into his vitals. A very ingenious mode which is practised, says a writer, from whom these observations have been principally extracted, is for the diver to carry down with him four or five hard wood sticks, about two feet long, sharpened at both ends. In case he is likely to be disturbed in his search for the oyster, by the visit of this king of sharks, he thrusts one of the sticks between his jaws, as he is in the act of closing them. This props them asunder, and the force with which they are brought to act on the stick, securely pins both ends into the bones, and away he goes, without the possibility of a remedy. Instances have been known of an Indian,



who was so sharply set upon, that he gave away three sticks in succession, before quitting his dangerous post.

At the Marquesas Islands, where this shark abounds, the natives swim in the midst of them quite fearlessly; and the only reason why more of them are not devoured, must be the peculiar ease with which they are supplied with large fish. Whenever, however, a native is so unhappy as to be caught by one of them, his associate never exert themselves in the least, to extricate him; because it is a common matter of belief there, that sharks never seize any but the wicked—or transgressors of law, and therefore the men deserves to die.

A gentleman of our acquaintance informed us that he saw a young girl swimming from a Boston vessel, waiting to receive a cargo of sandal wood, with a heavy bar of iron on her shoulder, which she had contrived to steal from the deck. She swam under water a considerable distance, before coming up for breath, but the moment she was seen, the boats put off, with the expectation of recovering the bar.

Just as the boats were so near that she was fearful of being struck with an oar, which was raised by a man in the bow, she plunged a second time—the boats pursued the track, but as she came up to the surface, still holding the iron, a "mighty white shark" swallowed her at one effort;—the velocity towards his object being so great, that as he rolled upward, he girl was driven down his throat.

#### Curious Migration of Eels.

An annual migration of young eels also takes place in the river Thames in the month of May; and they have generally made their appearance at Kingston, in their way upwards, about the second week in that month, and accident, has so determined it, that for several years together it was remarked that the tenth of May was the day of what the fishermen call eel fair; but they have been more irregular in their proceedings since the interruption of the lock at Teddington. These young eels are about two inches in length, and they make their approach in one regular and undividing column of about five inches in breadth, and as thick together as it is possible for them to be. As the procession generally lasts two or three days, and as they appear to move at the rate of nearly two miles and a half an hour, some idea may be formed of their enormous number. The line of march is almost universally confined to one bank of the river, and not on both sides at the same time; but, from some instinctive or capricious impulse, they will cross the river, and change the side without any apparent reason for doing so.

When the column arrives at the entrance of a tributary stream which empties itself into the river, a certain portion of the column will continue to progress up the tributary stream, and the main phalanx either cross the river to the opposite bank, or will, after a stiff struggle to oppose the force of the tributary branch in its emptying process, cross the mouth of this estuary, and regain its original line of march on the same side of the river. In consequence of the young eels dispersing themselves from time to time, as occasion offers, in the manner above described, the shoal must imperceptibly lessen until the whole have disposed of themselves in different places.

TRAVELS OF AN IRISH GENTLEMAN IN SEARCH OF A RELIGION, with notes and illustrations, by the Editor of Captain Rock's Memoirs: Philadelphia, Carey & Lea; 1 vol. 18mo.—There is nothing surprising in the fact, of the author of "Little's Poems" turning saint in his older days, and making up, by glorifying "the fathers," in his mature years, for the harm he may have done the daughters in his youth;—though what could have set Tom Moore to work upon such a subject as this we cannot divine, unless it be that he is merely "working up his old iron," by writing out a saleable volume from the notes he may have made years since, in the course of his study of other subjects. At all events, the result is before us in a very singular production—a most learned and ingenious vindication of the Roman Catholic faith,—fraught with the most plausible reasoning, and displaying a degree of curious research, that would have been far from contemptible in the most plodding days of the Dutch bibliographers; and which, in this surface-skimming age, is really prodigious. This great array of authority, however, will not go for much with those who dissent from Mr. Moore in his main proposition, of the propriety of keeping the very foundation of our faith, the Bible, a sealed book

from THE PEOPLE. For the rest, having already extracted the most inviting passages of the Book—the Poetical Translations of the Fathers, published on the outside of our paper a day or two since—we leave it for our readers to examine the graver parts for themselves.

#### FOREIGN INTELLIGENCE.

The latest accounts from Portugal, were by an arrival at Liverpool on the 8th June, bringing three officers from Don Pedro's army.

The accounts from Oporto, says the Liverpool Mercury, are by no means favourable to the cause of Donna Maria; the army only consisting of 10,000 strong, and not in high spirits; their disaffection is more on account of their contracts of pay not being discharged, than of the hardships of a city in a state of siege. Whether it be a lack of money on the part of the government of Don Pedro, or wilfully held from the troops, is not known. Out of the English troops, there at present remains only 1000, and about 1500 French, all of whom would gladly return to their respective countries; were it possible. Admiral Sartorius is laying off the bar. Don Miguel's squadron is reported to be out, and well fitted.

On the 27th, M. Joly's extensive spinning mills, at St. Quentin, were destroyed by fire, together with all its engines, machinery, and stores of every description. Three offices in Paris had insurance on the premises, amounting to 600,000 francs.

The infant Don Carlos and his family had taken passage at Lisbon, on board a British frigate for Civita Vecchia, to avoid the cholera, which was spreading through all parts of Portugal.

Ibrahim Pacha had been ordered by the Viceroy of Egypt to retire, on the 9th May, immediately, with all his army, behind the Taurus.

The revolt against the Sultan of Constantinople had become general and formidable in Bosnia and Albania. The Turkish officers had been deprived of their offices and employments. The Greeks of Veravia and Greneva were also in open rebellion to the Turkish government.

An insurrection had broken out in Italy, having for its object a republican government. Avignon, Grenoble, and Lyons were the cities most excited. The centre of operations was to be Chambery, and the revolutionists were to be assisted by the refugee Poles. The whole were to act simultaneously on the Sardinian States, France, and the French parts of Switzerland.

The Duc de Rovigo (Savary) died at Paris, on Monday last, of cancer in the tongue. On the same day, the editor of the *Tribune* was tried before the Cour d'Assises for a new alleged seditious libel, but was acquitted.

The departure of the Duchess of Berry for Palermo was expected to take place on Wednesday.

At Amiens, on the 23d May, a disturbance broke out, in consequence of an order given by the Archbishop, to remove the rector of a parish, who had been denounced to him. The populace became enraged at the order, and resisted it. The National Guards interfered, but were overcome. Afterwards twelve of the ringleaders were secured.

Sir Stratford Canning arrived at Paris from Madrid, on his way to London, on Monday last. At the date of his departure from the Spanish capital every thing was tranquil there.

Bank of England.—On the 31st May, Lord Althorp, in a Committee on the Bank Charter Act, proposed a series of resolutions, embodying the arrangement with the Bank, and the regulation of Banking Companies, which he prefaced by a speech of considerable length. The resolutions were ordered to be printed, but no vote was taken upon them. The leading features of the arrangement are, that the charter shall be renewed for 21 years, an option being reserved to Government to put an end to it after the expiration of 10 years, on a year's notice—that no banking company of more than six partners shall issue notes in the metropolis or within 65 miles of it, but banks of more than six partners at a greater distance may draw bills on London to any amount, and issue notes payable in London—that the Bank of England notes shall be a legal tender for debts above the value of 5l. and the notes of the Bank shall not be payable in gold except at the Bank of England and its branches—that bills having not more than three months to run, shall not be subject to the Usury Laws—that a weekly account similar to that laid before

the Committee, stating that the amount of bullion in the Bank, and the notes in circulation, shall be furnished weekly to the Government, which is to be considered confidential; but the average of these accounts, at the end of the quarter, shall be published in the succeeding quarter in the Gazette; and that a bill shall be introduced into Parliament to regulate Country Banks, and to encourage Joint Stock Banking Companies in the country to issue Bank of England notes. A fourth part of the sum lent by the Bank to Government is to be paid off, and the charge for the management of the public debt to be reduced from 245,000l. to 120,000l.

The Times of the 7th June, after giving the debates on this subject adds—The presumed conclusion of the arrangement with the Bank has produced great activity in the money market, and, in fact, throughout the whole range of commercial operations, which proves more strongly than all the argument in the world could do, that its natural tendency is conceived to be that of increasing the circulation and raising prices of every description. Consols for the account left off at 90 3/4 to 7/8; Bank Stock 204 to 205; and Exchequer Bills at 50 to 51s. premium.

By the U. S. ship St. Louis, the editors of the Gazette have received the following from their correspondent, dated

"Pt. Arenas, May 25, 1833.

"Gentlemen—our accounts from Lima are to the 4th May; all was quiet, although an attempt had been made towards a revolution, but was suppressed by sending out of the country the president of the senate, and imprisoning some half dozen more.

"In Central America, the political horizon is darkened, and the country rent into some dozen parties. In Nicaragua, the civil war is raging to a great extent. The chief, Herreras, is in Leon, and has with him some 600 troops. In Grenada, Menagua, and all the towns in the province, troops are raising to attack him. What will be the end, God knows; but we have no prospect of a speedy termination.—Guatemala is in trouble, as well as San Salvador.—The indigo crops are abandoned."—[Gazette.]

#### SUMMARY.

The extreme heat of Monday, when the thermometer stood at 92° in the shade, at 3 P. M. was thought by many to give a show of reason to the extravagant suggestion made a day or two since in a morning paper, that Mr. Holt had bored through the outer crust of the earth; and it was rumored about town that those internal fires, which, according to Cuvier, Nature keeps ever burning in her smitheries below, were flaming up through the aperture at a rate that threatened soon to make grilled meat of every man who had not Monsier Chabert's anti-cooking specific in his pocket. The alarm, of course, was not slight: people moved about, wan and haggard, while briny bitter drops were seen to bedew many a manly countenance. It was, in short, a scene befitting the pen alone which described Byron's "Darkness."

Men did glare upon each other with eyes,  
Whose hot and fever'd glances seemed  
From the red bottom of a furnace shot.  
Some by the windless window stood and tried,  
Tried vainly there to catch the breeze that came not;  
Some gasping sank beneath the scorching sighs  
Their panting comrades heaved. Some called for ice;  
For juleps some. Some calmly dripping stood,  
Then homeward hurried and their linen changed—  
Changed frequently, yet ever dripping anew.  
And figures strange of fiery uncouth mein,  
With sagging habiliments were frequent seen;  
And features, forms, and fashions, all were changed—  
Mingled and changed like molten scum—iron, blended:  
Men to primeval modes returned, and these  
Moved hatless, stockless, vestless, coatless all.

THE REVENUE.—According to the data which have been furnished by the returns of revenue accrued at some of the principal ports during the first half of the present year, there seems to be a diminution of about one third as compared with the revenue which accrued during the same period in 1832. This is owing to the repeal or reduction of duties under the new Acts of Congress, and not to any falling off in the amount of importations. But notwithstanding the diminution of duties accruing the present year, it would not be surprising if the actual receipts should be equal to those of 1832. For in the first place a considerable part of the duties which accrued in 1832, are payable in the present year, and in the second place, the introduction of cash duties and short



credits under the new laws, will throw a larger amount of payments into the present year than of right belongs to it. The receipts last year from customs were \$24,224,411 77. The expenses of government will not exceed \$14,000,000. Consequently if the receipts of the present year shall equal those of 1832, there will be a surplus of more than \$10,000,000; which added to the balance in the Treasury at the commencement of the year, (\$4,502,914 45,) and \$4,000,000 from public lands and other sources, will give a total surplus of more than \$18,000,000. Deduct \$7,001,698 83, the amount of the national debt at the beginning of the year, and there will be a clear balance of about \$11,000,000 which Congress will not know what to do with. If we had the control of uncle Sam's purse strings, we would, with the consent of the Southern States, apply this sum to the gradual extinction of slavery. Next year the actual receipts from customs will not probably exceed \$15,000,000 or \$16,000,000.—[Journal of Commerce.]

The standard weight for merchantable wheat this season, has been fixed by the city millers of Richmond, Virginia, at 58 lbs the bushel. Last season it was 60, and half the crop weighed 61.

**Pears.**—Pears may be grafted on stocks of the Mountain Ash and the Service Tree; both of which will grow and thrive where pear tree stock would not. I have also seen apples grafted on quince stocks, and planted in a soil so wet that an apple could not live; but they are doing very well, and making exceedingly fine shoots.—[Rusticus in Urbe.]

The People of Michigan, it would seem, are extremely hostile to General Black Hawk and his companions. The officer having them in charge, on his arrival at Detroit, deemed it expedient to procure a body guard, to protect them in the progress of their journey westward. His Excellency the General in Chief, was even burnt in effigy at Detroit. That those people who have themselves been sufferers in the late conflict with the Indians, or those whose friends have suffered, should feel somewhat sensitive on the appearance of Black Hawk and the Prophet among them is not very strange; yet, we think it was at least imprudent and impolitic thus to manifest their disposition on the occasion.—[Conneaut Gazette.]

By the steam ship DAVID BROWN, Capt. Penoyer, we have Charleston papers of the 20th, three days in anticipation of the mail. With regard to the injury to the boiler, said to have been sustained on her outward passage, we are informed by Captain Penoyer that it was not as serious as at first apprehended. The alarm arose from the apparent strain of a rivet, which, however, proved, on examining it, very little if at all injured.

In the Charleston Patriot, of 20th inst. is a card from the passengers who remained on board the *David Brown* during her detention for repairs at Beaufort, in which they speak in the warmest terms of the kind and gentlemanly treatment received during the whole time, from Capt. Penoyer and his officers, and express their undiminished confidence in the safety and excellence of the *David Brown*, as a packet.

*Extract of a letter, received in this city.*

"CAMDEN, JULY 16.—We are glad to say that the prospects of our planters are very good for large crops of Cotton, and we believe it will come into market sooner than ever before known. Cotton will be sold in Camden in August."—[Charleston Courier.]

**Lost Mail Found.**—We learn from the Post Office in this city, that the Mail from New Brunswick (New Jersey) which has been missing for two or three weeks, and for which a reward was offered, was received at our post office by the southern mail this morning. It appears from the Post Bill that this mail had been received at the Post Office in Cincinnati, (Ohio,) whence it was sent to the Post Office of this city, where it should have arrived on the 6th inst.—It is fortunate that this mail has been found, as it exonerates several persons from unjust suspicions. We are informed that a considerable sum of money has also been saved; that one letter contained \$700, and others checks, &c. to the amount of more than \$2,000.—[Post.]

**EXTRAORDINARY MORTALITY.**—We have been informed, says the Richmond Compiler, that on an estate of Gen. Wade Hampton, on the Mississippi, a little above New Orleans, out of fifteen hundred slaves, more than seven hundred have been destroyed by Cholera.

**RUTGERS COLLEGE.**—The annual commencement of this Institution was held at N. B. on the 17th inst. when the degree of A. B. was conferred on—Garrett B. Adrain, Nicholas G. Blauvelt, G. Schenck Cannon, John H. Carothers, John Chetwood, James D. La Vergue, John Demott, Abraham D. Deyaw, John Dickinson, J. Wilson Drury, John P. Garriak, James R. Hardenberg, John Hopper, Daniel Michel, Fredk Ogilby, Robert H. Prayn, Peter J. Quick, William Reilly, B. Dubois Smock, Jacob P. Stryker, William H. Tallmadge, H. Hart, E. Waring.

The degree of A. M. was conferred upon seventeen gentlemen, Alumni of the College, and that of D. D. upon Rev. Messrs. Gosman and McCarrel.

**Melancholy.**—The stage on the Syracuse and Watertown line in passing from Adams to this place was upset on the night of the 11th instant, and the driver Rensselaer Nash, almost instantly killed. When the stage upset, Mr. Nash was thrown from the box and caught under the body of the falling coach. He spoke to a lad of about fifteen, the only passenger on board, inquiring if he was able to run, and requested him to hasten for assistance, stating that he must die, but before assistance could be rendered, he expired. Mr. Nash is said to be about 28 years of age; of correct moral character, esteemed and worthy.—[Watertown Freeman.]

**Unprecedented Dispatch.**—The steamboat New-Philadelphia, Capt. G. N. Diehl, attached to the Rail-Road Line between Philadelphia and this city, left the wharf, at half past 3 A. M. on Thursday last, for Philadelphia, to take her station on the line from that city to Bordentown. She arrived at Chesnut st. wharf at half past 10 o'clock the same evening, having performed the passage at least two hundred and sixty miles, in nineteen hours!—[Daily Advertiser.]

It will be seen by the Inspector's report that the number of deaths in this city during the last week was 149; a larger number than has occurred before in any one week since Cholera times. There is however no prevailing disease, nor is the number of deaths greater than usual at this season of the year. In the corresponding week of 1832, the number of deaths was EIGHT HUNDRED AND SEVENTY-NINE, of which 686 were Malignant Cholera.—[Jour. Com.]

**Accident by sparks from the chimney of a Steamboat.**—A man was shockingly burnt on board a small skiff at Fulton slip, on Saturday morning, by the explosion of four or five pounds of gunpowder, which he was in the act of placing under cover, when it took fire by a spark from the chimney of a steamboat, which fell upon it and caused the accident.—[Mercantile Advertiser.]

Mr. E. A. G. Young of New Castle, in Delaware, announces that he has discovered a method of effectually preventing the emission of sparks from the chimneys of Locomotive Engines, for which he has obtained a patent. Mr. T. Stockton, a director of the New Castle and Frenchtown Rail Road, certifies that the invention has been in use for about three weeks, on that road, on a Locomotive in which wood is used for fuel, that it has been very satisfactory to the Directors, and is believed by them to be effectual in stopping the sparks.

We learn by a letter from Fort Winnebago, dated 25th June, that the Indian murderers of Felix St. Vrain and others, have been again delivered up to the authorities of that post, by their nation. It will be recollected that they escaped from the guard house at Fort Winnebago some time last fall. It is further said that they will be sent to Green Bay, in a few days, to take their trial. Col. Dodge was at Fort Winnebago, but was likely to remain there only a short time.—[St. Louis Republican.]

[From the Charleston Courier.]

**LOSS OF A STEAMBOAT.**—The steamboat *Bonnetts of Blue*, Captain Davis, sailed from Savannah 15th ult. bound to Mobile. On the 24th, when about 40 miles S. E. by S. from St. Augustine, it commenced blowing a gale from N. N. E. during which the boat broached to, and would not steer. Soon after, the boat was found to be leaking badly, and the pumps became choked—the leak gaining fast, the square sail was taken in, and both anchors let go in 15 fathoms water, and all hands employed in bailing. Finding it impossible to keep her free, slept the chain, cut the hawser, and set the square sail, for the purpose of driving the boat on shore—at the same time commenced lighting her by throwing the wood overboard. At half past 4 A. M. finding she was sinking, ordered the boat to be got ready when Capt. Davis, lady and two children, Messrs. Kennedy and Blissett, passengers, and all the crew, (with the exception of two negroes, which the boat being small, it was found impossible to take on board,) embarked. A short time after the boat left the wreck, she sunk.

One of the negroes reached the shore on a piece of the wreck; the other was unfortunately drowned in the surf. The boat landed at Buryville, on the coast of Florida, and proceeded on the following day to St. Augustine. The wreck of the steamboat drove on shore, and went to pieces, the engine having fallen out of her, when she sunk and rolled over. Captain Davis and family arrived in this city on Saturday, in the schooner *Agnes*, from St. Augustine.

We regret to learn from the Harrisburg Reporter, that General Solomon G. Krepps, for several years past a member of the State Senate, died of cholera at his residence in Brownsville, a few days since.—He had been at Pittsburg, where it is supposed he contracted the disease. Gen. Krepps was one of the ablest members of the Senate—was beloved and respected by all who enjoyed his acquaintance—and his death will be deplored by all who knew him.—[Philadelphia Inquirer.]

[From the Pennsylvanian.]

We have procured from the Collector of this port the following statement of the duties accruing at Philadelphia:—

The first quarter 1833 was	\$797,316 23
Second " "	525,456 00
	1,322,772 23
First quarter 1832	1,332,479 93
Second " "	977,698 56
	2,310,178 49

**Railroad Accident.**—We learn that yesterday, whilst the locomotive with a train of cars was passing on the Schenectady and Saratoga rail-road near Ballston, it came in contact with a cow, which had run upon the track. The locomotive passed over the cow and was thrown off the track with considerable damage: the next adjoining car passed over the cow, but held on the track: the other cars were thrown off the track, and the passengers more or less injured, but none seriously.—[Albany Argus.]

**Indian News.**—Col. Henry Dodge, of Dragoons, with two companies of Rangers (Captains Backus and Browne's) commenced his march towards the rapids on Rock River last Sunday for the purpose of dislodging *Maneater's* band of Winnebagoes. It appears that this chief, after all that has been done and said on the subject, is still lurking about the rapids with his band amidst the thick forests and swamps of that country. The other Indians we are informed have crossed the Wisconsin according to the stipulations of the treaty of last fall.

Col. Dodge is ordered to demand the murderers who escaped from the prison at Fort Winnebago last fall, and now are thought to be skulking about in *Maneater's* band. This demand certainly will be made, and when made, must, and of course, will, be persisted in till they are given up. Whether any resistance will be made or not we expect to be able to inform our readers in our next number.—[Galenian.]

**Singular Phenomenon.**—A pond in the vicinity of Providence, whose water has heretofore been unusually pure and limpid, has, within a few days past, assumed a thick milky appearance. The change remains unaccounted for.—[Hartford Review.]

The Pawtucket Chronicle says:—A pond situated 4 miles from this village, in the town of Smithfield, has lately assumed a novel appearance, which at first alarmed many superstitious persons. That a body of water more than half a mile in extent, should undergo a rapid change, from its natural hue to a milk white, was announced with many trepidations. But the great wonder ceased on the discovery of the innumerable white animalculæ produced by the stagnant water or putrid animal matter.

**John Paul Jones.**—The sailing master on board the *Bon Homme Richard*, commanded by the celebrated Paul Jones, is now living at, Brooklyn, L. I. aged about seventy-eight years. His name is Geo. Raymond, who, for many years previous to 1808, was commander of the merchant ship *Citizen*. Captain Raymond had been two voyages to India, previous to enlisting under Paul Jones, when he was but 19 years old. He is a native of Norwalk, Connecticut.—[Hempstead (L. I.) Enquirer.]

**"Old Hickory."**—We have seen twelve beautiful axes, from the factory of Alexander Harrison, New Haven, which were presented to General Jackson on his recent visit to that city. They were made by twelve different men in said factory, each doing his best, and are of different models, according to the taste or genius of the workmen. A hickory box, varnished, and lined with silk, contains them, in which, after being exhibited a day or two at the Exchange, they are to be conveyed to Washington.



## MISCELLANY.

## FORMATION OF THE CONSTITUTION.

Judge Story, in his Commentaries on the Constitution of the United States, concludes his remarks upon the decline and fall of the Confederation as follows:—

"Whatever may be thought as to some of these enumerated defects, whether they were radical deficiencies or not, there cannot be a doubt, that others of them went to the very marrow and essence of government. There had been, and in fact then were, different parties in the several states, entertaining opinions hostile, or friendly to the existence of a general government. The former would naturally cling to the state governments with a close and unabated zeal, and deem the least possible delegation of power to the Union sufficient, (if any were to be permitted,) with which it could creep on in a semi-animating state. The latter would as naturally desire, that the powers of the general government should have a real, and not merely a suspended vitality; that it should act, and move, and guide, and not merely totter under its own weight, or sink into a drowsy decrepitude, powerless and palsied. But each party must have felt, that the confederation had at last totally failed, as an effectual instrument of government; that its glory was departed, and its days of labor done; that it stood the shadow of a mighty name; that it was seen only, as a decayed monument of the past, incapable of any enduring record; that the steps of its decline were numbered and finished; and that it was now pausing at the very door of that common sepulchre of the dead, whose inscription is, *Nulla vestigia retrorsum*.

If this language should be thought too figurative to suit the sobriety of historical narration, we might avail ourselves of language as strongly colored, and as desponding, which was at that period wrung from the hearts of our wisest patriots and statesmen. It is, indeed, difficult to overcharge any picture of the gloom and apprehensions, which then pervaded the public councils, as well as the private meditations of the ablest men of the country. We are told by an historian of almost unexampled fidelity and moderation, and himself a witness of these scenes,\* that "the confederation was apparently expiring from mere debility. Indeed, its preservation in its actual condition, had it been practicable, was scarcely to be desired. Without the ability to exercise them, it withheld from the states powers, which are essential to their sovereignty. The last hope of its friends having been destroyed, the vital necessity of some measure, which might prevent the separation of the integral parts, of which the American empire was composed, became apparent, even to those who had been unwilling to perceive it."

In the next chapter, the learned judge proceeds to give the following account of the formation of the Constitution of the United States:

## Origin and Adoption of the Constitution.

In this state of things, commissioners were appointed by the Legislatures of Virginia and Maryland early in 1785, to form a compact relative to the navigation of the rivers Potomac and Pocomoke, and the Chesapeake Bay. The commissioners having met in March, in that year, felt the want of more enlarged powers, and particularly of powers to provide for a local naval force, and a tariff of duties upon imports. Upon receiving their recommendation, the legislature of Virginia passed a resolution, for laying the subject of a tariff before all the States composing the Union. Soon afterwards, in January, 1786, the legislature adopted another resolution, appointing commissioners, "who were to meet such as might be appointed by the other States in the Union, at a time and place to be agreed on, to take into consideration the trade of the United States; to examine the relative situation and trade of the States; to consider how far a uniform system in their commercial relations may be necessary to their common interest, and their permanent harmony; and to report to the several states such an act, relative to this great object, as, when unanimously ratified by them, will enable the United States in congress assembled to provide for the same."

§ 273. These resolutions were communicated to the states, and a convention of commissioners from five states only, viz: New York, New Jersey, Pennsylvania, Delaware and Virginia, met at Annapolis in September, 1786. After discussing the subject, they deemed more ample powers necessary, and as well from this consideration, as because a small number only of the states were represented, they agreed to come to no decision, but to frame a report to be laid before the several states, as well as before Con-

gress. In this report they recommended the appointment of commissioners from all the States, "to meet at Philadelphia, on the second Monday of May, then next, to take into consideration the situation of the United States; to devise such further provisions as shall appear to them necessary, to render the constitution of the federal government adequate to the exigencies of the Union; and to report such an act for that purpose to the United States in Congress assembled, as when agreed to by them, and afterwards confirmed by the legislature of every State, will effectually provide for the same."

§ 274. On receiving this report, the legislature of Virginia passed an act for the appointment of delegates to meet such, as might be appointed by other States at Philadelphia. The report was also received in Congress. But no step was taken, until the legislature of N. York instructed its delegation to move a resolution, recommending to the several States to appoint deputies to meet in convention for the purpose of revising and proposing amendments to the federal constitution. On the 21st of February, 1787, a resolution was accordingly moved and carried in congress, recommending a convention to meet in Philadelphia, on the second Monday of May, ensuing, "for the purpose of revising the articles of confederation, and reporting to congress, and the several legislatures, such alterations and provisions therein, as shall, when agreed to in congress, and confirmed by the States, render the federal constitution adequate to the exigencies of government, and the preservation of the Union." The alarming insurrection then existing in Massachusetts, without doubt, had no small share in producing this result. The report of congress, on that subject, at once demonstrates their fears and their political weakness.

§ 275. At the time and place appointed, the representatives of twelve states assembled. Rhode Island alone declined to appoint any on this momentous occasion. After protracted deliberations, the convention finally adopted the plan of the present constitution, on the 17th of September, 1787; and by a contemporaneous resolution, directed it to be "laid before the United States in congress assembled," and declared their opinion, "that it should afterwards be submitted to a convention of delegates chosen in each state by the people thereof, under a recommendation of its legislature for their assent and ratification," and that each convention, assenting to, and ratifying the same, should give notice thereof to congress. The convention, by a further resolution, declared their opinion, that as soon as nine states had ratified the constitution, congress should fix a day, on which electors should be appointed by the states, which should have ratified the same, and a day, on which the electors should assemble and vote for the president, and the time and place of commencing proceedings under the constitution; and that after such publication, the electors should be appointed, and the senators and representatives elected. The same resolution contained further recommendations, for the purpose of carrying the constitution into effect.

§ 276. The convention, at the same time, addressed a letter to congress, expounding their reasons for their acts, from which the following extract cannot but be interesting. "It is obviously impracticable (says the address) in the federal government of these states, to secure all rights of independent sovereignty to each, and yet provide for the interest and safety all. Individuals, entering into society, must give up a share of liberty to preserve the rest. The magnitude of the sacrifice must depend, as well on situation and circumstance, as on the object to be obtained. It is at all times difficult to draw with precision the line between those rights, which must be surrendered, and those which may be reserved; and on the present occasion this difficulty was increased by a difference among the several states, as to their situation, extent, habits, and practical interests. In all our deliberations on this subject, we kept steadily in our view that, which appears to us the greatest interest of every true American, the consolidation of our Union, in which is involved our prosperity, felicity, perhaps our national existence. This important consideration, seriously and deeply impressed on our minds, led each state in the convention to be less rigid on points of inferior magnitude, than might have been otherwise expected. And thus the constitution, which we now present, is the result of a spirit of amity, and of that mutual deference and concession, which the peculiarity of our political situation rendered indispensable."

§ 277. Congress having received the report of the convention, on the 28th of September, 1787, unanimously resolved, "that the said report, with the resolutions and letter accompanying the same, be transmitted to the several legislatures in order to be sub-

mitted to a convention of delegates chosen in each state by the people thereof, in conformity to the resolves of the convention, made and provided in that case."

§ 278. Conventions in the various states, which had been represented in the general convention, were accordingly called by their respective legislatures: and the constitution having been ratified by eleven out of the twelve states, congress, on the 23d of September, 1788, passed a resolution appointing the first Wednesday in January following, for the choice of electors of president, the first Wednesday of February following, for the assembling of the electors to vote for a president, and the first Wednesday of March following, at the then seat of congress (New York,) the time and place of commencing proceedings under the constitution. Electors were accordingly appointed in the several states, who met and gave their votes for a president; and the other elections for senators and representatives having been duly made, on Wednesday, the 4th of March, 1789, congress assembled under the new constitution, and commenced proceedings under it. But a quorum of both houses, did not assemble until the 6th of April, when the votes for president being counted, it was found that George Washington was unanimously elected president, and John Adams was elected vice president. On the 30th of April, president Washington was sworn into office, and the government then went into full operation in all its departments.

§ 279. North Carolina had not, as yet, ratified the constitution, the first convention called in that state, in Aug. 1788, refused to ratify it without some previous amendments, and a declaration of rights. In a second convention, however, called in November, 1789, this state adopted the constitution. The state of Rhode Island had declined to call a convention; but finally, by a convention held in May, 1790, its assent was obtained; and thus all the thirteen original states became parties to the new government.

§ 280. Thus was achieved another, and still more glorious triumph in the cause of national liberty, than even that, which separated us from the mother country. By it, we fondly trust, that our republican institutions will grow up, and be nurtured into more mature strength and vigour; our independence be secured against usurpation and aggression; our domestic blessings be widely diffused, and generally felt, and our union, as a people, be perpetuated to our own truest glory and support, and as a proud example of a wise and beneficent government, entitled to the respect, if not to the admiration of mankind.

## From the Boston Patriot.

ON BIRDS AND THEIR MISFORTUNES.—We have already intimated our opinion, that the labors of the scientific ornithologist are of far more practical utility than the usual observer supposes; and that, even in the business of legislation, a regard to his researches might prevent many errors, which may much affect public welfare. The legislation on the subject of birds has been marked by some essential errors, which have led to real evil. By the law of 1817, woodcocks, snipes, larks and robins, were protected at certain seasons of the year, whilst war to the knife was declared against crows, black-birds, owls, blue jays, and hawks; these last were treated as a sort of pirates, subject to a suspension at the yard arm, with the least possible ceremony. It so happens, that the character of these very birds has been singularly mistaken: for while the ordinance of legislation has been thus systematically levelled at them, they, on a principle which man would do extremely well to imitate, have been returning good for evil; they have been diligently engaged in extirpating all sorts of vermin, while never were the vilest vermin half so ill treated by the human race. The crow for example, who is generally regarded as a most suspicious character, has had great injustice done him; in the spring, when the ground is moist, he lives in a state of the most triumphant luxury on grubs; he eats the young corn, it is true, but it is a necessary of life, to which he never resorts, except when his supply of animal food is shortened. After the corn is tolerably grown, he has nothing more to do with it; and in any stage he destroys at least five hundred pernicious grubs and insects, for every blade of corn which he pillages from man. In the southern States, he is regularly permitted to accompany the ploughman, and collect the grubs from the newly opened furrow; his life is thus secured from the safest of all tenures—that of the interest of man in permitting him to live.

There is scarcely a farm in England, without its rookery; the humid atmosphere multiplies every species of insect, and these birds reward man for his forbearance, by ridding him of legions of his foes. By a policy very similar to that which dictated the revocation of the edict of Nantes, they have occasionally been exposed to the mischievous propensi-

\* Marshall's Life of Washington, 194.



ties of unruly boys, who, as far as utility is concerned, are not to be compared to crows; but the error of this step soon became obvious, and they are now received with universal welcome. The hawk enjoys a double reputation in the hen-roost; he sometimes destroys the chickens, but with man's consistency, does not like to see his infirmities copied by another; and by way of compensation demolishes the fox, which eats twenty chickens where he eats but one: so that it is hardly the part of wisdom to set a price upon his head, while the fox, a hardened knave, is not honored with a penal statute. How the owl came to be included in this black list, it is difficult to conjecture; he is a grave, reflecting bird, who has nothing to do with man, except to benefit him, by eating weazles, foxes, racoons, rats and mice, a sin for which most house-keepers will readily forgive him. In some parts of Europe, he is kept in families, like a cat, whom he equals in patience and surpluses in alertness. Another of these birds, the blackbird, is the avowed enemy of grubs, like the crow: in the middle States, the farmer too well knows the value of his company, to pluck them from the furrow; and while other less pains-taking birds collect the vermin from the surface, his investigations are more profound, and he digs to the depth of several inches in order to discover them. When the insects are no longer to be found, he eats the corn, as well he may, but even then asks only a moderate compensation for his former services; five hundred black-birds do less injury to the corn, than a single squirrel. The last upon the catalogue of persecuted birds, is the blue jay. Whoever watches him in the garden, will see him descend instantly from the trees, pouncing every time upon the grub, his enemy and ours.

We have already seen that the act to which we have referred protects some birds at certain seasons of the year; among others, the robin, who lives on insects and worms, and has no taste for vegetable diet, and the lark who is extremely useful in his way. The only wonder is, that it should have been thought expedient to allow them to be shot in any season. The quail, another of the privileged class, has no title to be named in company with the others; in the planting time, he makes more havoc than a regiment of crows, without atoning for his misdeeds by demolishing a single grub. Nor is the partridge a more scrupulous inspector of the rights of property; though as he lives in comparative retirement, he succeeds in preserving a name for honesty.

There are some of our most familiar birds, of which a word may be here said. Every body has seen the little goldfinch on the thistle by the wayside, and wondered perhaps that his taste led him to so thorny a luxury; but he is all this time engaged in devouring the seeds, which but for him would overrun the ground of every farmer. Even the bob-o-link, a most conceited coxcomb, who steals with all imaginary grace, destroys millions of the insects that annoy the farmer most. All the little birds, in fact, which are seen about the blossoms of the trees, are doing us the same service in their own way.

Perhaps there is no bird which is considered more decidedly wanting in principle than the wood-pecker—and, certainly, so far as man is concerned, there is none more conscientious. So long as a dead tree can be found for a nest, he will not trouble himself to bore into a living one; whatever wounds he makes upon the living are considered by foreign gardeners as an advantage to the tree. The sound tree is not the object—he is in pursuit of insects and their larvae. In South Carolina and Georgia, forests of a vast extent have been destroyed by an insect, which would seem as capable of lifting a tree as destroying it.—The people were alarmed by the visitation, and sagaciously laid the mischief at the door of the wood-pecker, until they had confounded the bailiff with the rogue.

The injury arising from the loss of a single crop is hardly to be estimated. The experience which is taught by our own misfortune, is very dearly bought; and if we think how we can derive it from others—if, for example, we can learn from the ornithologist the means of preventing such injury, as in many instances we may, the dictates of economy combine with those of taste, and warn us not to neglect the result of his researches.

**Solitude in Old Age.**—As to myself, I have had my full share of the world—a busy share from fifteen to fifty. I should want taste, did I not now enjoy that variety in life which I gain by solitude. Still a medium has ever been wanting, both in my public and private life, to give a zest of true enjoyment. I had thirty-five years of perpetual crowd and bustle. I have now had five of almost continual loneliness and

quiet. \* \* \* Now do not suppose you can alarm me by representing this state of apathy as a calamity. It is the blessing for old age; it is the substitute for patience. It permits me to look in the glass without screaming with horror—and to live upon moderate terms of charity with all young people, (without much haired or malice,) although I can never be young again.—[Memoirs of Mrs. Inchbald.]

POETRY.

[We should be happy to hear more often from the fair writer of the following simple and pathetic lines, which breathe the tenderness of a sister's affection, animated by a Christian's hope.]

FOR THE N. Y. AMERICAN.

TO  
Why does the rose fade on thy cheek,  
And care sit on thy brow,  
Those once bright eyes, why do they speak  
Such mournful language now?  
In other days it was not so,  
It was not thus with thee;  
There was no sign of heartfelt woe,  
All was hilarity.  
Thy cheeks were like the ruddy morn,  
Thy eyes were sparkling bright;  
The social hour thou didst adorn,  
And every heart delight:  
Thy feet did tread the flowery vale,  
Or trip the dance along,  
And oft thou didst the ear regale  
With thy soft winning song.  
But now it is not so with thee,  
Some evil secret power  
Has bound the heart which was so free,  
Has nipt the blooming flower;  
I read it in thy wan blanch'd cheek,  
Thy fading beauties prove,  
Thy languid eyes,—all, all do speak  
Thy unrequited love.

And did he whom thy guileless heart  
Did love, alas! too true,  
Who said that nought but death should part,  
Did he forsake thee too?  
Oh did the cruel spoiler come,  
A fiend in virtue's form,  
To desolate thy happy home,  
To leave thy breast forlorn.  
Though man is false, yet God is just,  
Then raise thy fading eye  
To Him, whose love thou sure canst trust,  
And on His word rely;  
The Friend who never will forsake,  
Who ne'er will faithless prove,  
"The bruised reed he will not break,"  
Nor disregard thy love.

New York, July 15, 1833.

E. S. G.

[From the Edinburgh Literary Journal.]

PRAYER.

Go, when the morning shineth,—  
Go, when the moon is bright,—  
Go, when the eve declineth,—  
Go, in the hush of night;  
Go with pure mind and feeling,  
Fling earthly thoughts away,  
And, in thy chamber kneeling,  
Do thou in secret pray.  
Remember all who love thee,  
All who are loved by thee;  
Pray for those who hate thee,  
—If any such there be;  
Then for thyself in meekness,  
A blessing humbly claim,  
And link with each petition  
Thy great Redeemer's name.  
Or if 'tis e'er denied thee  
In solitude to pray,  
Should holy thoughts come o'er thee,  
When friends are round thy way,  
Even then the silent breathing  
Of thy spirit raised above,  
Will reach his throne of glory,  
Who is Mercy, Truth, and Love.  
Oh! not a joy or blessing  
With this, can we compare—  
The power that he hath given us  
To pour our souls in prayer.  
When'er thou pinest in sadness,  
Before his footstool fall,  
And remember, in thy gladness,  
His grace who gave thee all.

TO DIRECTORS OF RAILWAY COMPANIES AND OTHER WORKS.

An Engineer lately from England, where he has been employed in the location and execution of the principal railways in that country, wishes to engage with some company in the United States.

From his practical knowledge of the various kinds of motive power, both of stationary and locomotive engines, also the construction of railway carriages of many descriptions, he has no doubt that he would prove of efficient service to any company having works now in progress.

Letters addressed to W. E. G. 35 Wall street, or to the care of Wm. & F. Jacques, 90 South street, will be punctually forwarded to. Most satisfactory reference can be given. mlif

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Noit's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. mlb

GRACIE, PRIME & CO. offer for sale, at 29 Broad street—

2 cases Gum Arabic  
20 do. Danish Smalts, EFFF } Reduced Duty  
10 do. Saxony do. do }  
100 bags Saltpetre  
2 do. Gulf Amis; 20 tons Old Lead  
100 do. Trieste Rags, FF  
6 boxes each 50 lbs. Tartaric Acid  
5 do. each 25 lbs. do. do  
1 case 60 bottles Syrup de Vinaigre  
10 cases White Hermitage; 20 do. Cote de Rhodé  
10 do. Dry St. Peray; 50 do. Bordeaux Graves  
20 do. Chateau Grille; 5 cases each 12 bottles Olives in Oil  
4 bales Fine Velvet Bottle Corks  
100 do. Bourbon Cloves  
20 do. Molieres Almonds  
143 bundles Liquorice Root  
4 bales Goat Skins  
1 cask Red Copper, 1 do. Yellow do.

DRY GOODS BY THE PACKAGE.

10 cases light and dark ground Prints  
40 do. 3-4 and 6-4 colored and black Merinos  
15 do. 5-3 colored and black Circassians  
2 do. Silk Bandanna, black and colored  
4 do. Italian Lustrings  
3 do. White Sateens  
4 do. White Quiltings  
10 do. Borrie's Patent Thread, No. 28 and 35  
10 do. Super high cold Madras Hdks, ent. to de-henters  
100 pieces Fine English Sheetings, for city trade  
3 cases Canton Cordis  
2 do. Super blue, black, and colored Cloths—selected expressly for Merchant Tailors  
25 bales low priced point Blankets.

PAPER—

IMPERIAL AND ROYAL—From the celebrated Sangerettes Mills, of the following sizes, all put up with 480 perfect sheets to each ream—

Sizes—24x35, 24x36, 24x34, 25x36, 25x37, 29x41, 27x34, 24x38, 24x21, 24x28, 24x26, 24x27, 20x24, &c., &c.

Also—All the old stock of Medium will be sold at very reduced prices, to close sales, the Mill having discontinued making that description of paper.

ALSO,

Chinese Colored Paper—for Labels, Perfumery, &c.  
5 cases each 1600 Sheets Colored Paper  
2 do do do do do do superfine  
2 do do do do do do do  
2 do do do do do do do plain Gold do  
2 do do do do do do do plain Silver do  
2 do do do do do do do Silver do with red figures  
2 do do do do do do do do Gold do do  
2 do do do do do do do do Red do do Gold do  
2 do do do do do do do do White do do Silver do. A30

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new, among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 2 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested. Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repair, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLEY, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer,

Germanstown, February, 1833.

For a year past I have used instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Engr. Philad.

mlly German and Norristown Railroad

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete, at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 80 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

ROGERS, KETCHUM & GROSVENOR.



## MARRIAGES.

Tuesday evening, July 23, at the house of the bride's father, by the Rev. Cyrus Mason, HENRY IMBROCK, Esq. of Globe Works, Sheffield, England, to ANN FRANCES, eldest daughter of Thos. Darling, Esq. of this city.

On Thursday evening, May 23, 1833, by his honor the Mayor, Mr. THOMAS H. LYLELL, son of the Rev. Dr. Lylell, to Miss JANE L. LE FORTE, youngest daughter of Capt. John Le Forte, all of this city.

On the 2d inst. by the Rev. Jas. Christy, the Rev. DAVID SCOTT, of Glasgow, Scotland, to Miss ELIZA WALKER, of this city.

On Tuesday evening last, by the Rev. Mr. Carpenter, Mr. JOSEPH C. POOTE, to Miss REBECCA K. MEAD, the step daughter of John S. Boon, all of this city.

On the 24th instant, by the Rev. Mr. Norton, James Franklin Robinson, Esq. to Miss Adeline Jaques, daughter of William Rockwell, all of this city.

This morning, 23d inst. by the Rev. Mr. Eastburn, RICHARD T. HARTSHORNE, Esq. to Miss CATHERINE, daughter of Thomas Jenkins, Esq.

At Christ Church, on Thursday morning 18th instant, by the Right Rev. Bishop Onderdonk, the Rev. ALBERT SWEDDS, assistant minister of said church, to SARAH PIERCE, daughter of the Rev. Thomas Lylell, D. D.

On Thursday evening, 18th inst. Mr. Wm. Mather, of Eng., to Miss Ann Eliza Byram, of this city.

On Tuesday evening, 23d inst. by the Rev. Joseph Morrison, Mr. Leonard G. A. Schieffelin, to Miss Margaret D. Faulkner, all of this city.

On Thursday evening, by the Rev. Dr. M'Autley, Mr. F. John son, to Miss Elsieph, daughter of Lewis Compton, Esq. both of Perth Amboy, N. J.

In Brooklyn, on the 22d inst. by the Rev. T. J. Sawyer, Mr. Josiah Reeves, to Miss Mary L. Wetmore, youngest daughter of Wm. W. Wetmore.

At Albany, on Friday, 12th instant, by the Rev. Mr. Ludlow, ALFRED HUNTER, (of the firm of A. & J. Hunter) to Miss LOUISA M. BENEDICT, all of that place.

At Danbury, Conn. on Monday, 22d instant, by the Rev. Mr. Rood, CHARLES H. MERRITT, Merchant of Troy, N. Y., to ANN MARIA, daughter of Col. Mose White, of the former place.

At Morristown, N. J. on the evening of the 16th inst. by the Rev. H. R. Peters, Mr. DEXTER I. CANFIELD, of Morris Plains, to Mrs. CHARLOTTE C. EBBETTS, of the former place.

At Philadelphia, on the 6th inst., Mr. John Crawford, to Miss Catharine Wilson, both of Philadelphia county.

At Albany, on the 1st instant, by the Rev. Mr. Lockbend, Mr. Lyman Hewitt, of Westford, Otsego Co., to Miss Isabella Harvey.

At Alexandria, D. C., on the 4th inst., by the Rev. C. A. Davis, Mr. Samuel Chipley, to Miss Sarah M. Baylies.

At Albany, Mr. Daniel Sparhawk, merchant, to Miss Eunice G. Treadwell.

On the 16th inst., near Wheeling, Virginia, General Daniel Cruger, of Bath, Steuben County, N. Y., to Mrs. Lydia Shepherd.

## DEATHS.

In this city, on the 11th inst. after a long and painful illness, JOHN FOWLER, in the 26th year of his age, formerly of Long Island.

On the 16th instant, in the 68th year of his age, ABRAHAM G. FORBES.

On Sunday, the 14th instant, ELI LOCKWOOD, in the 49th year of his age.

Wednesday morning, in the 16th year of her age, ANASTATIA, daughter of John Murphy.

On Monday afternoon, 23d instant, of a lingering illness, Miss MARY ANN MCCARDELL, aged 24 years.

On Monday, of a lingering disease, ROBERT DENT, aged 52 years.

On Sunday night, ELIZA BIDDLELPH, infant daughter of Edward and Mary Grattan, aged 1 year.

On Saturday, 20th inst., Mrs. MARTHA WILSON, aged 52 years.

On Tuesday afternoon, Mrs. MARTA, wife of Mr. Furnham Hall, aged 56 years.

On Tuesday, 23d instant, after a long and painful illness, Mr. JOHN BARRY, shipwright, in the 43d year of his age.

On Tuesday, 23d instant, of consumption, Mrs. LOUISA FRAY, wife of the late Joseph Fray, aged 49 years.

At Burlington, N. J. on the 23d inst. the Rev. CHARLES HENRY WHARTON, D. D. Rector of St. Mary's Church, of that city.

Suddenly on Sunday afternoon, in the 19th year of her age, GEORGINA, wife of Jefferson B. Nones, and daughter of Thomas Dillin, of Philadelphia.

This morning, 15th inst. about 4 o'clock, after a lingering illness, Mr. SETH SMITH BARNES, a native of St. Croix, aged 34 years.

This morning, after a lingering illness, GERARD BECKMAN, in the 36th year of his age.

Yesterday, 14th inst. at noon, after a lingering illness, Mrs. MARY MITCHELL, late of Newburgh, wife of Mr. John Mitchell.

On Monday morning, 15th inst. after a short but severe illness, Mr. JAMES GILMORE, merchant, aged 30 years. His character without a blemish, and without an enemy, to him might be truly applied the words of Pope—"An honest man is the noblest work of God."

On Saturday last, of consumption, in the 22d year of her age, RUTH, wife of Joseph W. Klessin, and daughter of the late Alexander Allen. Her remains were taken to West Neck, Long Island, for interment.

Suddenly on Tuesday evening, Mr. ALEXANDER WARE, senior partner of the house of Wark & Dewar, of Jamaica.

On Tuesday, 16th inst. in her 41st year, THEODORA, wife of Eli Reed.

This morning, in the 72d year of his age, Felix Alexander Owens Pascalet, N. D.

On Tuesday morning the 23d inst. CORNELIA, the daughter of Henry Remson, in the 7th year of her age.

Yesterday morning at New Durham, N. J. Mrs. SARAH, wife of Andrew Binkley, in 33d year of her age.

Wednesday morning, at Jamaica, L. I. after a lingering illness, Mrs. ANN CROCO, wife of Wm. F. Croco, Printer.

At Washington, JESSE, infant daughter of David Green.

At Park Island, Louisiana, of cholera, on the evening of the 18th ult., John Newman, keeper of the light-house at the N. E. Pass of the Mississippi, aged about 57 years, a native of New York, N. C.

In Hamburg N. Y., on the 4th inst., Julian Almira, daughter of Ansel Knapp, formerly of Essex county in this state.

At Jamestown, Chautauque Co., on the 25th ult., Mr. Eliza Fish, of Farmington, aged 71 years. In Geneva, Mrs. Charlotte H. Stoddard, relict of the late George S., aged 26. In Coventry, Seneca Co., Levi Wheeler, Esq. aged 58.

At Georgetown, D. C. aged 66, Mr. John Laird. July 1st, at Alexandria, D. C., Capt. H. B. Ross; 11th, at Albany, T. Atwood.

Bridges, Esq.; 10th, at do. Henry, infant son of Mr. George C. Lamb, of New York.

At Mobile, on Saturday, 20th June, of a painful and protracted illness, Sarah, the consort of Capt. Samuel Craghead, aged 35 years, a native of Gloucester County, New Jersey.

In the Poor-house in Maury county, Tenn., on the 14th ult., Abraham Bogard, being 118 years and 4 days old. He never drank spirits, or was sick, nor took medicine of any kind. He retained the faculties of seeing, hearing, and memory, until the vital spark took its final departure. He was born in the State of Delaware.

In Hartland, Vt. Major Timothy Lull, aged 70. His father commenced the settlement of Hartland, in 1763. At this time there were no inhabitants between Charlestown No. 4 and Hartland. The father of Mr. Lull moved into the town in the following manner. Having purchased a log canoe, he left Dummerston and proceeded up Connecticut river, with his family and furniture, until he arrived at the mouth of a considerable brook in Hartland. There he landed his family, and breaking a junk bottle, called the stream Lull's Brook, which name it retains to the present day. He died at the age of 81. The last deceased was the first child born in the County of Windsor.

At Yorkville, S. C. on the 4th inst. Mrs. Nancy Mann, aged 76. On the 9th inst. at the same place, Rev. James G. Richardson, of the Methodist Church, and one of its brightest ornaments.

At Harrisburgh, Pa. on the 21st inst. Samuel Douglass, Esq. formerly Attorney General of that State.

On Monday, the 24th June, in the township of Sidney, U. C., of Hydrophobia, Miss MARGARET M. OSTROM, aged 12 years, 5 months and 16 days. The deceased was bitten by a mad dog on or about the 14th May, but did not exhibit any symptoms of madness till Thursday, the 29th June, when she became deranged, and would attempt to snap at almost every thing that fell in her way, especially when water was presented to her. During the time she was seized with madness, and the time she died, a period of only four days, she had several lucid intervals, when she would converse rationally with her friends, and expressed a sincere wish to leave this world of sorrow and of woe.

**NOTICE.**—Books for subscriptions to the additional Stock of "The Elizabeth-Town and Somerville Railroad Company," will be opened at William Craig's Inn, in Belvidere, on Monday the 29th day of July instant; at Israel Smith's, in Clinton, on the 30th; at Drake's Hotel, in Newark, on the 31st; and at the Exchange, in the city of New York, on the 1st, 2d, and 3d days of August next, between 11 A. M. and 3 o'clock P. M.—Additional stock required \$500,000, in shares of \$50 each—\$5 on each share to be paid at the time of subscribing.—Dated July 12, 1833.

GARRET D. WALL, THOMAS SALTER, OLIVER W. OGDEN, NATHANIEL SAXTON, JOHN W. BRAY, JOHN KINNEY, Jun.

Books will also be opened at the same times and places, for subscriptions to the stock of "The Leggett-Gap Railroad Company." Capital required \$1,000,000. Shares \$50 each—\$5 on each share to be paid at the time of subscribing.—Dated July 10, 1833.

HENRY W. DRINKER, DANIEL STROUD, WILLIAM HENRY, JOHN COOLBAUGH, A. E. BROWN, STODGEL STOKES, DAVID SCOTT, JAMES M. PORTER.

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HENRY W. DRINKER & others, Commrs'rs.

The above roads, the stock of which is now offered to the public in connexion with the New Jersey Railroad, form one continuous line of railroad communication from Jersey City, opposite New York, through the Lackawanna Coal Region, to the Northeast branch of the Susquehanna, below the great bend, and the North Branch of the Susquehanna at Pittstown, at the mouth of the Lackawanna creek, and head of the Pennsylvania Canal navigation.

The "N. Jersey Railroad" extends from Jersey City through Newark and Elizabethtown to New Brunswick. The "Elizabeth-Town and Somerville Railroad" extends from Elizabethtown through Somerville, Clinton and Mansfield, to Belvidere, on the Delaware. The "Susquehanna and Delaware Railroad" extends from Belvidere through the Delaware Water-Gap, Shroudsburgh, up the Pokonoko Brook, down Roaring Brook to its junction with the Lackawanna at Centreville, and down the Lackawanna to Pittstown, on the North Branch of the Susquehanna. The "Leggett-Gap Railroad" extends from Centreville, where the Delaware and Susquehanna Railroad enters the Lackawanna Valley, through Leggett-Gap, across the South Branch of Tunkhannock to the mouth of Martin's Creek, up Martin's Creek to the head waters of Salt-Lick Creek, and down Salt Lick Creek to the Northeast Branch of the Susquehanna, below the great bend. From this point it is ten miles down the Susquehanna in a N. W. direction to Binghamton, and a Railroad may be graded at 3 feet descent in a mile. At Binghamton, this line is connected with the Chenango Canal; and 20 miles farther, at Owego, with the Owego and Ithaca Railroad, and Cayuga Lake. From the other termination of the Delaware and Susquehanna road at Pittstown, on the north branch, a Railroad has been chartered, at the last session, by the Legislature of Pennsylvania. Up the north branch, 86 miles, to the State line above Tioga, which may be graded at two and a half feet elevation per mile, this is in progress; and continues this Railroad line of communication up to that point in the direction of Buffalo. From Tioga it is 20 miles in the same direction of Newton or Elmira, where there is a connexion with the Elmira Canal and Seneca Lake.

By this line of railroad, in addition to the advantage of an open communication at all seasons of the year, the inexhaustible coal deposits of the Lackawanna, are brought between 60 and 100 miles nearer to the city of New York; than by any other connected line of artificial communication, executed or in contemplation. Besides this line, in its extent across New Jersey and Pennsylvania, to the southern boundary of New York, is almost in a direct line, and on much the nearest practicable route, for the accommodation of travel, from the city of New York to Lake Erie, Buffalo and Niagara; and it is the only route by which the city of New York can hope successfully to compete with the southern markets, for the trade of at least 6,000,000 of acres of the most fertile territory of her own state. This is apparent on inspection of the maps of New Jersey, Pennsylvania, and the large map of New York; and comparison of this with other routes. The consequences are obvious.

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## STEPHENSON,

Builder of a superior style of Passenger Cars for Rail roads, No. 264 Elizabeth street, near Blecker street, New-York.

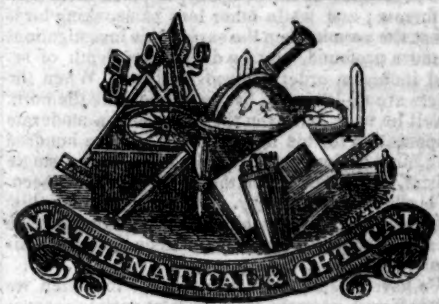
RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J. S. d.

## SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted. Leveling Instruments, large and small sizes, with high magnifying powers with classes made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane. Jan 6.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee & May, offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon-dale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1833. F81 H



## INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEATTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heatte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, no less than five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional inspection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER, Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The pairs of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustment.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833. To Messrs Ewing and Heatte.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE, Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same.